BUYING A BOND

BUYING A BOND

BARRON'S BOOKS ON INVESTMENT

BUYING A BOND
Philip L. Carret

THE STOCK MARKET BAROMETER
William P. Hamilton

INVESTING IN PURCHASING POWER
Kenneth S. Van Strum

INVESTING FOR A WIDOW
Walker Van Riper and others

PRACTICAL HINTS FOR INVESTORS
Walker Van Riper

THE ART OF SPECULATION
Philip L. Carret

FORECASTING STOCK MARKET TRENDS
Kenneth S. Van Strum

INVESTING FOR A BUSINESS MAN
Hazel Freeman and others

BARRON'S: 44 BROAD ST., NEW YORK CITY

BUYING A BOND

BEING A REPRINT OF A SERIES
OF ARTICLES ON BOND BUYING
WHICH ORIGINALLY APPEARED

IN

BARRON'S

The National Financial Weekly

BARRON'S
The National Financial Weekly
NEW YORK

Second Printing August, 1924
Third Printing September, 1924
Fourth Printing February, 1925
Fifth Printing November, 1928
Sixth Printing August, 1929

PRINTED IN U. S. A.

PREFACE

"Buying a Bond" was written with the average investor in mind. It seeks to discuss the problems which confront the investor who is trying to accumulate a competence through bond investment, who seeks reasonable security of principal and a fair return, who wants to buy his bonds intelligently rather than blindly. So far as possible technicalities have been avoided. Nevertheless it is hoped that the expert, as well as the layman, may find the volume interesting and profitable reading.

CONTENTS

ARTICLE I

WHAT IS A BOND?—WHO BUY THEM?

A GENERATION ago the popular phrase to describe a member of the idle rich class was "a bloated bondholder." Today the phrase is almost never heard. The Liberty Loan campaigns of war-time practically gave the finishing blow to the superstition that a bondholder was an idle parasite upon society. By those campaigns millions were suddenly added to the ranks of bond-buyers, a class of our population which had previously been steadily growing in numbers.

It was too much to expect that all the converts to bond-buying made under the spur of war enthusiasm would continue to buy bonds after the return of peace. Thriftless thousands sold their bonds in 1919 and 1920 and spent the proceeds on luxury, ignorant thousands parted with their bonds at prices substantially below the market to sharpers, unfortunate thousands were forced by necessity to sacrifice their bonds in the depression of 1921 and have not since rejoined the ranks of investors. Other thousands, many of whom should have known better, misinterpreted the lesson contained in the decline of Liberty bonds below 90 in 1920, felt that they had been cheated by their government and have eschewed bond investment from that day to this. It was inevitable that such defections from the army of bond-buyers created by the Liberty Loan

drives should have occurred. To a very large extent, nevertheless, those who bought bonds in 1918 have continued to buy them. The bond-buying class in the United States today is thus probably numbered in the millions of individuals.

A Bond as an Engraving

What is a bond? Superficially it is a large piece of paper, beautifully engraved, containing several paragraphs of fancy script and signed and sealed by the proper authorities of the issuing government or corporation. Attached to the bond proper is a strip, or perhaps several sheets of coupons, redeemable usually at six months' intervals as interest on the bond falls due. The coupons are numbered consecutively and each bears the date on which it may be redeemed and the amount of interest to which the bondholder is entitled. Few investors ever bother to read the face of a bond beyond the name of the issuing, or obligor, corporation, the face value of the bond and the date of its maturity. Fewer still ever see the indenture or trust deed of which the face of a bond is merely the condensation. This latter is usually a formidable legal document couched in highly technical language describing the various obligations which the issuing corporation has undertaken to fulfill to the bondholders.

A Promise to Pay

"Know all men by these presents, that the Baltimore & Ohio Railroad Company—, for value received, promises to pay to the bearer—One Thousand

Dollars—on the first day of July in the year 1925," is a typical introductory statement on the face of a bond and indicates the nature of a bond in a few words. A bond is merely a promise to pay. It differs from the usual promissory note given by an individual in that it is only one of a series of identical instruments issued in convenient denominations, it is usually payable to bearer, it usually runs a number of years from five to as many as five hundred, it usually enjoys something of a public market.

Security for the Promise

In the case of a corporation bond the promise to pay is frequently, although by no means always, reinforced by a mortgage on a portion or all of its property. A bond not so secured is commonly known as a debenture bond, sometimes as a note. In case a bond issue is not secured by a mortgage the position of bondholders is frequently protected to some extent by an agreement of the borrower to maintain working capital in a fixed ratio to debt or by agreement not to mortgage its property in future without equally securing the prior issue of bonds, or by some similar agreement. The essence of a bond, however, is its promise to pay a definite sum of money in a definite currency at a definite place on a specified day to the bearer, or, less frequently, to a registered holder. In addition to this promise, the borrower may have pledged certain assets or made certain extra promises, but these are additions to, not modifications of, the right of the bondholder to repayment of his principal and payment of in-

terest on definite dates. In the case of a corporation bond or the bond of a municipality in the United States this promise is enforceable in the courts; in the case of the bond of a state, the United States or a foreign government the lender relies "upon the conscience of the sovereign."

Position of the Trustee

An important paragraph appearing on the typical corporation bond is the trustee's certificate. A prominent bank or trust company usually acts as trustee for a corporate bond issue, holds the mortgage of the borrower's property, technically known as a "trust deed" or "indenture." These terms are also applied to the documents covering the various supplementary agreements reinforcing the promise to pay of a debenture bond. The trustee's certificate usually reads: "This is to certify that this bond is one of the bonds described in the within-mentioned mortgage and deed of trust—." If the borrowing corporation defaults upon any of its promises, it is the duty of the trustee to take legal action as representative of the bondholders.

The Army of Bond-Buyers

Who buys the output of bonds amounting to several billion dollars in each year? It is hardly an exaggeration to say that pretty nearly every American participates, directly or indirectly, in raising this huge aggregate of new money. Institutional buying is the principal source of orders for bonds. Commercial banks, savings banks and insurance com-

panies are the leading customers of the bond houses. Thus every depositor in a bank, commercial or savings, every holder of a life or fire insurance policy is indirectly a bond-buyer. In addition, hundreds of thousands if not millions of thrifty individuals are more or less regular purchasers of bonds.

Size of Average Purchase

A decade ago the average purchase of bonds was at least $10,000. So rapidly has the bond business grown in recent years that the average transaction is now in the neighborhood of $3000. The wealthy individual who buys bonds in blocks of $10,000 or more is buying just as many bonds as ever, but there has been a great increase in the number of investors whose purchases amount to but $500 or $1000 at a time. The movement to take in the investor with but $100 has not been much of a success. While many bond issues are now issued in denominations as low as $100 it is probably safe to say that the purchase of a single $100 bond is an uneconomic transaction. No bond house can afford to put any effort into making such a customer; the individual with only $100 had usually better leave it in a savings bank until he has accumulated $500 or $1000. The only bonds safe enough and marketable enough for an investor with a single $100 are Liberty bonds and the yield on Liberty bonds is but a trifle more than that from a savings bank account while the possession of bonds requires the rental of a safe deposit box for their safe-keeping.

A Bond Salesman's Customers

A decade or more ago the life of the bond salesman was a rather genteel affair. Only men of large affairs were prospects for the salesman. They were used to handling considerable sums of money, knew what they wanted. The salesman's work consisted of impressing his personality and the reputation of the firm he represented on his prospect. If he could meet the prospect socially, have lunch with him, play golf with him, dance with his debutante daughter, so much the better. To a large extent, of course, the stars of the bond-selling profession still pursue these tactics, concentrating their efforts on wealthy individual investors, bank and insurance company officials, trustees.

The New Bond-Buyers

To win the growing army of smaller buyers, however, new tactics are necessary. The average salesman today must look for his prospects on every corner. If he is energetic, his customers may include a plumber, an assistant buyer in a department store, the proprietor of a small retail store, a foreman in a factory, a thrifty laborer with a few thousands of life savings as an old-age fund, the room clerk at one of his regular hotels as well as leading professional and business men in his territory. The salesman will probably find it more difficult to make a sale to the foreman in a factory than to an experienced investor. The former will be "from Missouri" until much missionary work has been expended upon him. Once his confidence has

been won, however, he may be a valuable customer, steadfast in his patronage and eager to help the salesman win other business from his friends.

While the small investor throws away hundreds of millions of dollars annually on wild-cat promotions he is also becoming a very sizable factor in the bond business. Today the ranks of bond-buyers constitute a cross-section of the stable, sound, thrifty elements of American citizenship.

ARTICLE II

SELECTING AN INVESTMENT HOUSE

In any large city a man who is known to be wealthy is likely to receive the assiduous attentions of a dozen or more bond salesmen, unless he employs an efficient Cerberus to guard against the entrance of all but a favored few. Should he adopt this policy of exclusion to save himself from time-consuming interruptions? If he does, how shall he discriminate between the sheep who are to be favored with his patronage and the goats who might better seek greener pastures? To a greater or less degree, so keen is the competition in the bond business today, everyone with occasional funds to invest must decide on an answer to this question.

A Merchandising Institution

Before it can be answered some consideration of the different types of bond houses is necessary. The bond house whose representatives search out investors is invariably a merchant of bonds. It buys bonds in large blocks, sometimes entire issues, when they come out or, occasionally, picks up bonds in the open market with the expectation of selling them to its clientele at a profit. Essentially it differs not at all from the drygoods store which buys drygoods at wholesale and sells them at retail. The bond house, however, must employ a very large

volume of capital, owned or borrowed, and operates on a very small margin of profit; one with $1,000,000 capital would be one of but moderate size.

Risks in the Bond Business

For a gross profit of from $10 to $50 a thousand-dollar bond, tending toward the smaller rather than the larger figure, a bond house stakes its judgment that its customers will buy an issue of bonds at the offering price, takes the risk of a decline in values in case they do not respond, takes the moral risk of recommending the issue to its customers. The latter risk is a very real one. The average bond house takes its responsibilities to its clients very seriously. The older and more firmly established the house, the more sure its customers may be that its recommendations are entitled to considerable weight.

The prudent investor will, therefore, make inquiry as to the record of the house he proposes to patronize and avoid those whose record for enthusiasm for making sales is more conspicuous than their judgment of values. He will not forget, of course, that the most experienced and conscientious merchants of bonds will occasionally misjudge the marked for their wares and find their original price too high, just as happens to ordinary mercantile houses of the highest grade. But an occasional moderate overpricing of a security of intrinsic worth should not constitute a very serious black mark with the investor who should be mainly interested in certainty of income and ultimate repayment of principal.

Many of the bond houses which are merchants of bonds specialize in some particular class: municipals, public utilities, real estate bonds. In patronizing specialists the investor will do well to remember that diversification, the minimization of risk by scattering one's eggs in several baskets rather than placing them all in one, is almost the first principle of investment. The enthusiasm of a specialist for his own particular type of bonds should not lead an investor to neglect this important principle.

Brokers and Merchants

As opposed to the house which retails bonds which it has purchased with its own or borrowed funds is the broker in bonds. Practically there are almost no houses confining their operations to this field, but any stock broker and almost any bond house will act as a bond broker on occasion. The investor who knows exactly what he wants in bonds may give his order for the purchase of a bond listed on the New York Stock Exchange or some other leading Exchange either to his bank, to his stock broker or to his bond house. The only profit in the transaction is the commission of $1.50 per thousand-dollar bond to the broker who actually executes the order. A bank or a bond house not a member of the Exchange—and most bond houses will fall in this category—will handle such an order for a customer as an accommodation. A bond house executing such an order naturally assumes not the slightest obligation to the investor for the quality of his purchase.

"DR. GREEN"

How now is the beginner in investing to go about the placing of his money? Until he has acquired a very respectable fund of investment knowledge and experience of his own, he will make fewer mistakes if he selects some investment house of high reputation and regularly makes his purchases from it, rather than if he relies solely on his own judgment in picking out the bonds to suit best his particular needs from the advertised offerings or the bond circulars which he is likely to receive in numbers as soon as it becomes known that he has entered the investment class.

Let us assume that our beginner is a young physician with a growing practice in a moderate-sized city. He is a thrifty individual and begins to accumulate funds. Naturally he wishes to secure the maximum return from these funds, but he is wise enough to realize that his lack of business training and experience makes the assumption of speculative risks peculiarly hazardous. Accordingly our Dr. Green decides that he will stick to sound investments, bonds for first choice. Which of the bond salesmen who occasionally wait in his anteroom shall he patronize?

First, Dr. Green can consult his local bank as to the standing of the various houses whose representatives solicit his patronage. Such an inquiry will eliminate any fly-by-night schemes and any houses of dubious reputation. Perhaps there will be half a dozen left. Now the doctor might very properly interrogate the salesmen of the half-dozen

as to the houses they represent and their personal qualifications.

Sizing-Up the Salesman

How broad a list of offerings does the house ordinarily carry? A large house may carry from a dozen to fifty representative issues at all times. From the list of such a house any investor could be reasonably sure of suiting his requirements at any time. Another house may specialize in a certain class of offerings or may pursue the policy of concentrating its efforts on one or two offerings at a time, so that the investor has no large choice of bonds in purchasing from it.

Does the house co-operate with other houses in making its offerings or does it normally play a lone hand? The bond issue which is distributed by a syndicate including a large number of houses will normally have a much better market than the issue which is distributed by one or two houses.

How long has the house been in business? A house which has been in business for twenty-five years, established a good reputation and enjoyed normal growth has presumably done business on sound principles and may be expected to continue to do so. A house recently founded may or may not be building its business on a strong foundation.

Does the house handle preferred stocks as well as bonds? Common stocks? What proportion of its total business is in stocks? Many high-grade preferred and common stocks are perfectly suitable subjects of offering by an investment house, but

the record made by such stocks following their sale might properly be examined even more closely than the record made by bonds sold.

The Salesman as Financial Adviser

In satisfying himself as to the policies, experience and conservatism of the houses whose salesmen are soliciting his business, Dr. Green will not forget that the salesmen themselves are practically his only points of contact with the institutions they represent. He should regard them as potential financial advisers, choose one or more among them for that post with the same care that he hopes his patients have taken in selecting him as their medical adviser.

Without personal contact with an experienced bond salesman who knows his business it is quite possible that an inexperienced investor may choose just the wrong bonds from the list of the most conservative house. A common mistake is to choose the bond offering the highest yield in every instance. On any dealer's list the bond offering the highest yield is frequently a local issue with a very limited market. While such an issue may be intrinsically well secured and suitable for a small portion of an investment fund it is apparent that no investor should place all his funds in issues of this type. To do so is pretty certain to lead to regret sooner or later. The investor who reveals his financial situation and investment problem frankly to the experienced, conscientious, competent representative of a reputable investment house is likely to fare

much better than the inexperienced investor who trusts to luck and guesswork in buying his bonds.

There are still, to be sure, considerable sections of the country where this desirable personal contact is not possible. However, a very important part of the bond business is done by mail. If the prospective investor lives in a place where he is not accessible to the salesmen of the reputable investment houses—in spite of Blue Sky Laws the vendor of disreputable and worthless so-called securities seems to be everywhere—let him get in touch by mail with some one of the large investment houses who have offices scattered throughout the country, such houses, for example, as those whose advertisements appear in *Barron's*—preferably a house which has one of its offices not too far distant from his residence, so that from time to time he may establish the desirable personal contact with his investment banker to supplement the information and advice which will be gladly furnished him by mail.

ARTICLE III

WHO SHOULD BUY LIBERTY BONDS?

Most bond-buyers were introduced to bond investment by a purchase of government bonds. They were told during the Liberty Loan drives that a United States government bond was the safest investment in the world. Some of them questioned this statement two years later when Liberty bonds were selling around 85. Is a United States government bond actually the safest investment in the world? If so, why? Does a decline in price such as occurred in Libertys in 1920 reflect on the safety of a bond? What is meant by safety?

No recognized authority on bonds would hesitate before confirming the statement that a United States government bond is the safest investment in the world. That statement was not a piece of war propaganda fiction, but a sober statement of fact. It still holds true. The holder of a bond of the United States may be certain that it will be paid when due, that its coupons will be paid as they fall due. The reasons for this confidence are many.

Why United States Bonds Are Safe

First, the people of the United States have maintained a stable government for more than a century. It has been tested by a great civil conflict and by four external wars. It has survived periods of great

prosperity and of severe depression. It has proven itself adaptable, serving both for the simple needs of a few million people in thirteen pioneer communities and the complex requirements of a hundred million people in a continental empire. So far as human eye can foresee the government of the United States is the most stable on earth.

Second, the United States government is honest. Since the adoption of the Constitution it has kept faith with its creditors, has repaid on the due date every dollar it has borrowed. This honesty of the government is rooted in the honesty of the American people, who are on the whole energetic, intelligent, of high character.

Third, the United States government is powerful. Protected against foreign aggression by broad oceans, strong in the immense resources of a great people, the ability of the world's wealthiest nation to pay its debts is beyond danger of impairment from without.

Past Debts Really Paid, Not Refunded

Fourth, the United States government has a well settled policy not only of refunding its debts but of actually paying them. Following the War of 1812 the government rapidly paid off its debt and some 25 years later was entirely free from debt. The Civil War debt was substantially reduced in the same way. Already a large beginning has been made in paying off the debt incurred in the recent war. With the wealth and population of the United States constantly increasing, its debt steadily dimin-

ishing, the burden of the debt upon taxpayers constantly becomes lighter.

Fifth, the interest charges of the United States government consume only a moderate portion of the national income. The National Bureau of Economic Research estimated the income of the American people at slightly under $66,000,000,000 in 1919. It requires approximately $940,000,000 annually to pay the interest on the national debt, or less than 1½% of the national income.

The Factor of Self-Interest

Sixth, the national debt is exclusively an internal debt. Payment of interest from the receipt of taxes constitutes only a redistribution of wealth within the country. It is conceivable that a popular government, representing a people of inferior character and resources, may in time of financial crisis regard its obligations to overseas creditors with indifference. Where the debt of the government is owed exclusively to millions of its own citizens, however, sheer self-interest will prompt those citizens to see to it that their government lives up to its obligations to them.

The orators of the Liberty Loan drives were fully justified then in unequivocally calling United States bonds the world's safest investments. Is this statement consistent with the fact that Liberty bonds which had been sold to investors at 100 in 1918 were only worth 82 in the open market in May, 1920? This raises the question, What is safety in a bond?

Price Alone No Indication of Safety

The answer has already been given above. A safe bond is merely one that is certain to be paid when due. The actual price at which it may sell at a given time, taken by itself, is no indication of its safety. The price of a safe bond may fluctuate very widely. Its fluctuations reflect merely the fluctuations in the demand for capital, rather than any changes in its intrinsic quality.

What caused the decline in Liberty bonds in 1920? In its simplest terms it was the same condition that would bring about a decline in the price of potatoes or any other commodity. There were more sellers than buyers. Did anyone think in 1920 that the government of the United States was less stable, less honest, less powerful, less sound, less solvent, than it was in 1918 or than it is today? Decidedly, no. The only change was in the attitude of the people who had bought Liberty bonds. The self-denial of wartime was gone. Individuals who had then economized to buy bonds in 1920 preferred phonographs or automobiles, manufacturers preferred to add to their plants or pile up big inventories rather than continue to clip the coupons on their Libertys. Pressure from these sellers forced prices down until the return on Libertys was again more attractive than luxuries or possible profits from new plants and added stocks of merchandise.

Decline in Libertys No Ground for Criticism

When Libertys were selling at a substantial discount there was much ignorant and unjustified criti-

cism of the government as a result. Many people thought the government should "do something" about it. A little reflection will show that there was nothing the government could do. Having issued its promises to pay specified sums on specified dates the government could do no more than fulfill those promises. If the present worth of $1000 payable in 18½ years with semi-annual payments of $21.25 in the meantime was only $820 in May, 1920, that was because present pleasure or speculation seemed more desirable to a large part of the American people than future certainty. The promise of their government was as inviolable as ever.

A Liberty Bond the Ideal First Investment

As the safest investment in the world, a Liberty bond forms the ideal backlog for any investment fund. As the outstanding volume of government obligations is reduced and the demand for them for investment by savings banks, trustees and others whose investment field is limited by law increases, there may come a time when the yield will be so artificially low as to be unattractive to individual investors. That time has not yet arrived. The volume of government bonds outstanding is still amply large enough to permit a free market. In consequence, the yield of Liberty bonds at market prices truly represents the going rate of pure interest with the utmost minimum portion as insurance against risk. The investor who is absolutely dependent on a small capital as security against want can do no better than put it in Libertys. The investor who is

building up an investment fund can do no better than make the purchase of a Liberty bond his first step. With greater experience and knowledge he can safely purchase other bonds offering greater yields, minimizing the risk by the application of sound investment principles to their selection.

Banks and Corporations

While Liberty bonds are an important medium of investment for individual investors the bulk of outstanding Libertys are and will remain in the hands of banks, insurance companies and corporations. To such institutions they are entirely tax-exempt and thus a very attractive medium for the investment of surplus liquid capital. Owing to their ready marketability and relative price stability corporations commonly include Liberty bonds with cash among their current assets. While heavy purchases by the Treasury for the sinking fund and by the British government tend to minimize fluctuations in the Liberty bond market, the shorter the term of the issue the smaller is the chance of such fluctuations, as is the case with other bonds. For this reason the Third Liberty 4¼s, maturing in 1928, make the strongest appeal to the corporation treasurer or the banker who wishes to play safe in holding Libertys as a sort of secondary reserve.

The Future of the Liberty Bond Market

Which is the best issue of Libertys for the individual investor? With our government committed to the policy of retiring the debt as rapidly as pos-

sible, with a heavy sinking fund actually in operation, with payments on the British debt devoted to the retirement of Libertys, it would seem that in a few years considerable inroads on the volume of government obligations will have been made. This should tend eventually to an artificial scarcity of government bonds and raise prices regardless of the movement of the general bond market. The present time thus appears to present a great opportunity to investors to obtain maximum security with a yield of 4% or better. In order to take the best advantage of it the investor should choose the bond with the longest life.

The Most Attractive Government Issue

All the outstanding recent government bond issues but one are redeemable before maturity. That one, the third Liberty Loan issue, matures in 1928 so that it is practically equivalent to a short-term note issue. The others are redeemable at the option of the government at various dates from 1927 to 1947. Obviously the bond which is not redeemable until the latter year offers the investor undisturbed enjoyment of his security for the longest possible period. This issue, then, the Treasury 4¼s, 1947–52, is probably the most attractive of all the outstanding government issues to the private investor. With the exception of one small pre-war issue and the Treasury 4s 1944–54, all other United States government bonds are redeemable on or before Oct. 15, 1933. The holder of Treasury 4¼s, 1947–52, thus has 14 years longer assured life for his investment than he would have with any other important government issue except one.

The Lesson of 1920

The investor who purchases a long-term government bond or any other long-term bond must, of course, remember that its price can fluctuate within wide limits. Barring another world war it is improbable that this generation will again see such wide fluctuations in bond prices as characterized the four years after the Armistice, but movements of considerable extent and duration will occur. The true investor buys for income and the return of his principal as promised on the face of the bond. He will school himself to ignore price fluctuations unless in a particular case a downward movement is so at variance with the action of similar bonds as to indicate the likelihood that the security behind the bond is becoming impaired. He will remember that low prices for high-grade bonds represent, as in 1920, a buying opportunity rather than occasion for alarm.

ARTICLE IV

WHAT IS A FAIR YIELD IN BOND INVESTMENT?

As the world's safest investment, a United States government Liberty bond offers the investor the maximum of security. At present these bonds are selling a trifle over par. As they bear 4¼% coupon interest, the actual yield to the purchaser at these prices is a trifle less than 4¼%. The risk of loss in buying a Liberty bond to hold until maturity is infinitesimal. Their yield at any given time then affords a fair measure of the going rate of what is spoken of by the economists as "pure interest," which may be briefly defined as compensation for the use of money where no risk is involved.

Some Simple Mathematics

How is the yield figured when the bond does not sell at par? Many a beginning investor—and many a veteran investor, too—wonders by what exact process his banker calculated that United States Liberty Fourth 4¼s, 1938, selling at 82 in May, 1920, gave a yield to the purchaser of 5.85%. It was apparent that the correct figure was over 4¼% since a $1000 bond carried $42.50 a year interest and cost only $820. Dividing the former figure by the latter gave 5.18% as the result. This was the current return of the bond. It took no account of the fact that the bond would increase in value

on redemption $180 in 18½ years. This assured increase in value accounted for the added .67% in yield.

If the bond was to be paid off at 18 points more than cost in 18½ years, why was the yield not 18 divided by 18.5 or 0.97% greater than the current yield of 5.18%? The difference is explained by the fact that $180 payable in one lump in 18½ years is not worth so much to the investor as the same sum payable in regular instalments over this period. Semi-annual instalments considerably smaller than $180 divided by 18.5 themselves placed at interest would amount in 18½ years to $180.

Determination of the "current yield" of a bond is a simple matter of dividing the annual interest by the cost; determination of the "yield to maturity" involves a complicated mathematical formula. Anybody who deals in bonds customarily thinks, nevertheless, in terms of the "yield to maturity" when speaking or writing of the yield of a bond, as this is the only fair way to compare bond prices. Thus a price of 95 for a 4% bond might seem very high compared with the same price for another bond bearing 6%. If the one bond matures in two years, however, and the other in thirty, they are selling on approximately the same yield "basis."

A rough and decidedly unsatisfactory formula for determining the yield of a bond is to add to the current yield (or subtract from it in the case of a bond selling above par) the figure obtained by dividing the difference between the price of the bond, expressed in per cent. of par, and par by the number of years the bond has to run. The longer

the bond has to run, the less satisfactory is this method of determining its yield. For the use of the man who is constantly dealing in bonds mathematicians have worked out elaborate tables showing accurately the yield of bonds of almost any coupon rate or maturity.

Every Investment a Compromise

While yield to maturity may afford the only possible basis for comparison of bond prices, such a figure is not in itself so important to the average investor as the current yield. An investor who is buying bonds for income and desires an average return of 5½% on his investment will not be interested in a 15-year 4% bond at 80, even though at that price it is selling on better than a 6% basis. He will look only to the immediate return, in this case 5%. On the other hand, such a bond may be an excellent selection for the young man who is primarily interested in accumulation of principal, since his $800 commitment will automatically grow to $1000 in 15 years entirely apart from the reinvestment of interest.

How much may the investor reasonably expect in the way of yield on a bond?

In theory a fair yield is the going rate of "pure interest" as defined above plus enough to insure against the risk of default, assuming ready marketability. If for the sake of illustration the going rate of pure interest is assumed to be 4½% and a bond is selling to yield 6½%, the last two points represent the opinion of the market place on the

size of the insurance premium necessary to cover the annual risk of total impairment of value, and theoretically at least should not be treated as income but rather as a reserve for depreciation. Continuing the same assumption as to the going rate of pure interest, if the risk is properly appraised, then it is to be anticipated that one out of fifty different bonds selling on such a basis can go completely bad each year. If the risk is not so great as that, then the bond is cheap.

The object of investment is to obtain maximum yield with maximum safety. The latter object could be attained at the sacrifice of income by the purchase of Liberty bonds exclusively. The former object could be obtained, temporarily, by the purchase of highly speculative bonds, but at the sacrifice of safety. The investment of any given fund, then, is finally a compromise between the desire for income and the desire for safety.

"To Him that Hath"

How far an individual can afford to compromise with safety is, of course, a matter depending upon the circumstances of each case. The retired professional man with a few thousand dollars as an old-age fund cannot afford to assume risks. Greater income he may need badly, but the integrity of his principal is paramount. On the other hand, the young business man with a good income and excellent prospects can well afford the risks that go with high yields. Here we have a paradox, that he who most needs larger income can least afford

to seek it from his investments while he who needs it not at all can readily attain it.

Marketability

It sometimes happens that of two bonds equally secure so far as certainty of payment goes one may nevertheless sell on a better basis than the other. Such a difference is frequently the result of a difference in marketability. While the investor who buys a 20-year bond may be presumed to buy it for permanent investment, the average investor will always bear in mind the possibility that he may wish to turn it into cash quickly for any one of a dozen reasons. For this reason he will prefer to put a certain proportion of his funds into bonds which are readily salable at any time without appreciable sacrifice of principal. Liberty bonds are the standard of marketability as they are of safety. For any number of dealers stand ready to purchase Libertys in almost any quantity at any time, offering to buy from you for only $\frac{1}{16}$ of a point less than they offer to sell to you. At the other extreme there are many bonds, and so far as safety goes often perfectly sound bonds, with such a limited market that if their owner desires to sell he will have difficulty in finding a dealer willing to bid for the bonds at all, and, if he does, be forced to accept a price five points or more under the figure at which the dealer would endeavor to resell the same bond.

Before buying the investor should always inquire as to where he can find a market if he wishes to sell, and for the portion of his funds which he is

willing to place in relatively unmarketable issues he may and should obtain yields at least ½% to 1% or even more beyond the yield he might get from bonds no better secured but more marketable.

Artificial Factors

Various artificial factors other than that of marketability enter into the yield of bonds. Tax laws have a potent influence on bond prices. Thus Liberty bonds are exempt from the normal federal income tax as well as from local taxation. Disregarding the exemption from local taxes as well as the partial exemption from surtaxes accorded holdings less than specified amounts it is apparent that a fully taxable bond must yield 4.45% in order to give the investor with a $20,000 taxable income, for example as great a net return as that obtainable from Liberty 4¼s at par. Including all these factors the disability of a fully taxable corporation bond may be as much as 1%. A corporation bond carrying the conventional 2% clause whereby the company assumes payment of the bondholder's income tax up to 2% must similarly yield about 4.37% to equal the net yield of Liberty bonds at par. The shrewd investor must give considerable weight to the factor of taxation in selecting his securities, both income and inheritance taxes entering into his calculations.

Municipal bonds offer the most striking instance of the effect of exemption from taxation upon the market. Being wholly exempt from the federal income tax, municipals are eagerly sought by wealthy investors with the result that the bonds of small communities possessing in very low degree

the element of marketability will sell to yield ½% or so less than the first mortgage bonds of an important, prosperous railroad.

The Case of "Legal" Bonds

Among railroad bonds another artificial factor tends to disturb the normal relationship of prices. Outside governments and municipals, the savings banks of leading states are restricted by rather rigid laws to certain railroad issues for bond investments. Bidding against each other for the limited amount of such issues available these institutions raise prices artificially until they are out of line with other railroad issues. Thus Atchison general 4s frequently sell on a basis yielding not so much to the tax-paying investor as Libertys. As between the strongest railroad bond available and Libertys the latter are inevitably to be preferred, so that the individual will naturally not enter into competition with savings banks for the purchase of choice railroad bonds. On the other hand, among railroad bonds conforming to the spirit rather than the letter of the savings bank laws, particularly among the senior bonds of roads whose earning power is definitely on the up-grade, the individual will find many attractive selections.

The Safety Zone

Avoiding bonds which sell on an artificially low-yield basis by reason of features of no benefit to him, whether extreme marketability, tax exemption

or eligibility for savings bank investment, the shrewd investor will select his bonds from among issues which offer him security and a fair return.

A fair return has already been defined as pure interest plus an adequate allowance for risk. The experience of the most important institutional investors in the country as to the actual figure of a fair return may be illuminating. The 37 life insurance companies doing business in New York State held at the end of 1922 investments carried on their books at $6,108,492,000, consisting of $2,576,186,000 mortgage loans on farm and city property and $3,532,306,000 bonds and stocks. During 1922 the aggregate income of these 37 companies from these investments was $346,000,000, an average return of 5.6%. This is a trifle better than 1% in excess of the going rate of pure interest at the end of 1922, but it should be remembered that many of the investments of these 37 companies were made fifteen or twenty years ago when the going rate of pure interest was 3% to 3½%. If the 37 insurance companies had been able to invest $6,000,000,000 cash all at once at the end of 1922, it is safe to assume that they would have obtained a still higher average yield than 5.6%.

Strangely enough the $40,000,000 general funds of Harvard University were likewise invested to give a return of 5.6% on their book value on June 30, 1922. A total of $39,283,000 investments held on that date would have yielded $2,202,000 if all had been held throughout the year. This return is really more favorable than that received by the insurance companies since Harvard has not gone in

so heavily on unmarketable mortgages to "sweeten" its yield. Approximately 66% of Harvard's funds are in bonds, over 89% in marketable bonds and stocks, compared with 58% of the insurance companies' funds in marketable bonds and stocks.

Taking the experience of these great institutions as a guide, it is evident that as a practical matter in buying bonds widely offered publicly by strong syndicates or listed bonds with an active market, the investor need concern himself very little about the risk he is assuming if he is content to secure a yield not over say 1½% above that of long-term Libertys (now selling to yield 3.90% to 4.00%). But as he gets above that figure he should clearly understand that the higher return is really compensation for something more than an academic chance of future loss.

ARTICLE V

ACCUMULATION IN BONDS

Mathematical sharks with a taste for the bizarre have figured that one cent invested at the birth of Christ at 4% interest compounded semi-annually and the interest continually reinvested at the same rate would by 1922 have amounted to $200,000,000,000,000,000,000,000,000,000,000. In comparison with this astronomical figure the total wealth of Europe, the self-governing portions of the British Empire, the "ABC" countries of South America, the United States and Japan was estimated in 1921 by competent authorities at a trifle under $750,000,000,000. On this basis, the wealth of the world can hardly be much more than $1,000,000,000,000. Viewing the contrast between the wealth of today as it is and the theoretical figure to which an original investment of one cent would have amounted in 1922 years the flippant reader may be tempted to observe that it is too bad none of our ancestors made this small investment.

The Wealth of the World

The serious and useful interest of this computation lies in its revelation of the fact that money at a moderate rate of interest accumulates faster than the wealth of the world. The sword and the gun are the principal instruments that have ac-

counted for the failure of the world's wealth to increase at what would seem on first thought to be a moderate rate. Even in modern times, however, the wealth of the world's most favored nation has increased but slowly in the light of this concept. According to the Bureau of the Census, the total wealth of the United States in 1850 was $7,135,780,000; in 1912, the last census before the war, it had grown 26-fold to $187,739,071,000. This increase represented an annual increment of a trifle better than 5%. Only a rapid increase of population made such a gain possible, however. In this 62-year period the per capita wealth of the United States increased at an average rate of but 3% per annum. The individual who saves money, invests it prudently and reinvests the interest in the same way may thus at least have the satisfaction of knowing that he is accumulating wealth rather faster than his fellow citizens considered en masse.

A Revealing Letter

Too few people understand the principles by which wealth is accumulated. The following letter, received by *Barron's* some months ago, illustrates one common viewpoint. The writer is a prominent lawyer in a large western city, has been on the bench, is a man of standing in his community. The letter, with names disguised, follows:

"Gentlemen:

I am enclosing all letters which I have received from the Bunkum Oil & Refining Syndicate. As you will notice by the last two, they have evidently merged with the Fly-by-Night Oil Co. You will also note that we are to be as-

sessed at the rate of $25 per hundred shares in order to obtain the new stock. It would not cost me very much to subscribe, but I would like to know whether you think I would simply be throwing the money away or not.

Thanking you for any light you may be able to cast on this proposition for me, I remain,

Sincerely yours,
M. C. JAMESON."

In spite of the fact that Judge Jameson is far above the average in intelligence and education he almost fell victim to one of the most threadbare of the tricks by which the slippery fraternity of fake stock promoters milk their victims not once but twice or several times. When the sucker has about relinquished hope that his flyer will ever bring him any return he is informed that misfortune has overtaken the company, but that the president has cleverly saved the situation by arranging a merger with another and stronger company. All stockholders should send in their stock at once for exchange, accompanied by a check for 25% of the original commitment as part of the consideration for the exchange. To spend $25 to save $100 seems on the face of it like good business—and all too often the sucker is out the extra money.

The Part Played by Luck

Judge Jameson found himself in his unpleasant predicament because fundamentally he thinks of the accumulation of wealth as a matter of luck. He does not buy bonds; he takes occasional flyers, hoping that some day he will be lucky enough to pick a winner and land on Easy Street.

Now Judge Jameson would know, if he stopped to study the matter with any care, that the chances are about a million to one against anyone who tries to accumulate any important sum of money by pure luck. To be sure, luck does play its part in human affairs. A few fortunate individuals happened to be neighbors of a mechanical and business genius when he needed money to nurse the wild venture that was the Ford Motor Co. through its infancy. A favored few found gold in the Klondike. It would be foolish to deny that there are fortunes, and will be others, obtained by sheer good luck.

How Fortunes Are Made

The number of such fortunes, however, bulks very small when compared to the number of fortunes made in the normal way. Great and unusual wealth in our modern, ordered world is customarily attained by great and unusual service to society in the business field. The fortunes made by a few of Henry Ford's neighbors look very small when compared to the Ford fortune itself, won by rendering unparalleled service to society in the way of providing it with cheap transportation. Similarly the Woolworth fortune was gained by providing society with a new and remarkably efficient agency of retail merchandising. The Vanderbilt fortune was founded as a result of Commodore Vanderbilt's vision in linking little local railroad lines into a great trunk line, providing the most populous section of the United States with a great instrument of transportation. Luck has played but a small part in the building

of most of the really great fortunes of modern times.

The individual who puts a fortune as the goal of his ambition should realize that his only reasonable hope of attaining it lies in rendering some important service to society in the business field. He must be an entrepreneur or "enterpriser," in other words, go into business for himself. Merely going into business for himself will not do the trick, as Dun and Bradstreet can amply testify. To add another corner grocery store to the multiplicity of corner grocery stores to be found in any city renders no conspicuous service to the citizens of that city; to establish a corner grocery with a new idea in merchandising may bring immense wealth, as the history of the Great Atlantic & Pacific Tea Co. bears witness.

Courses of Action for the Average Man

For the man who does not feel within himself the qualities necessary to render such service "on his own" as the world pays for with great wealth, what is the prospect? Assume a salaried or professional man with a good income and the probability of years of undiminished earning power ahead of him. Unless he lives up to the limit of his income, letting the future take care of itself, he will wish to accumulate funds for his own old age or to leave to his family. Perhaps, like Judge Jameson, he may feel that the only way of achieving any substantial results lies in some form of gambling, taking an occasional flyer with surplus funds as he may have

them in hand from time to time. In pursuing such a course he is really playing with loaded dice, because whatever the form his flyers may take he is an amateur matching his skill and luck against professionals. The chances are then easily a million to one against him. So far as any tangible results are concerned he might as well have spent the funds thus lost on his personal pleasure, on increased luxury of living.

The Top Slice of Fortunes

There is open to him, however, another possibility. He may, if he chooses, take the top slice of the fortune the world awards to its successful enterprisers. Such adventurers frequently find that they can profitably employ in their enterprises outside capital, giving the outside capital first claim on the assets and earnings of the enterprise. The average man may thus lend his money to successful enterprises, in other words buy bonds, for a substantial return. If he will put a reasonable proportion of his income into bonds each year and regularly reinvest the interest on these bonds in the same way, he may gradually, but surely, accumulate a very respectable sum.

The Bond-Buyer's Reward

Any man who can look forward to employment of his earning capacity for a number of years may be sure of accumulating a comfortable competence by such a simple, safe and sure method. The longer

the process is persisted in, the more rapidly do the rewards accrue. The man who saves $1000 a year, investing it in 5% bonds and reinvesting the interest similarly, will have $20,000 in fourteen years, another $20,000 in eight and one-half years, the third $20,000 in six years. Contrasted with $1000 a year saved at the start his average rate of accumulation over the whole period will be better than $2000 a year. In such a policy of persistent saving and sound investment lies, for the average individual, not only the hope but the certainty of achieving financial independence.

The following table gives the amount which may be accumulated by investing a fixed sum of money each year at 4%, 5% or 6%. It is assumed that half the annual total is available for investment at the end of each six months and that interest is compounded semi-annually. Results for varying periods are as follows:

	$500 Invested at			$1000 Invested at		
Years	4%	5%	6%	4%	5%	6%
5	$2,737	$2,801	$2,866	$5,474	$5,602	$5,732
10	6,074	6,386	6,717	12,148	12,772	13,434
15	10,142	10,976	11,894	20,284	21,952	23,788
20	15,101	16,851	18,850	30,202	33,702	37,700
25	21,145	24,371	28,199	42,290	48,742	56,398
30	28,513	33,998	40,763	57,026	67,996	81,526
35	37,495	46,321	57,648	74,990	92,642	115,296
40	48,443	62,096	80,341	96,886	124,192	160,682

ARTICLE VI

NEW BONDS OR OLD?—LISTED OR UNLISTED?

One problem which frequently puzzles the beginning investor is whether to buy bonds of new issues or stick to seasoned bonds. Perhaps he has purchased one or two bonds of issues which have sold off appreciably following termination of the syndicate of offering dealers. He may reason that the syndicate reaped a profit of two to four points on the bonds, that the price at which the bonds were sold to the public was thus artificially enhanced and that he may always buy bonds at nearer their true value by waiting until the offering syndicate is dissolved. Is this reasoning correct?

A Merchandising Organization

Such a skeptical investor will do well to remember that in the normal course of events the price of everything he buys contains a profit for the seller. A bond house offering to the public securities which it has itself purchased is fundamentally a merchandising organization not essentially different from the clothing merchant. The individual who does not begrudge the latter a gross margin of profit sufficient to cover his expenses and leave the balance large enough to induce him to continue in business cannot logically begrudge the bond house its modest profit. The machinery of wholesale and retail bond

houses comprising a given syndicate for the distribution of a large bond issue to thousands of investors actually operates on a very narrow margin.

Bonds Never "Second-Hand"

The bond house differs from merchants of ordinary commodities in that the articles it offers for sale are imperishable and no stigma of the "second-hand" ever attaches to them. A sound bond in a safe deposit box is just as sound whether its holder purchased it on original offering from one of the houses which underwrote it, on later reoffering from a house which had picked up a block of bonds in the open market or on order from a broker who himself went into the open market to get the bond. The price the investor pays represents in the first instance the judgment of the offering house as to what the open market price for such an issue would normally be; in the second instance substantially the open market price—one that is reasonable according to the judgment of the offering house,—in the third instance what the buyer is willing to pay.

Pricing New Issues

Theoretically, then, the price of a new offering of bonds is not a fair price plus the profit of the offering syndicate, but a fair price as determined by the current market for other bonds of like character. Thus the syndicate's profit is paid not by the investors who buy the bonds, but by the borrower who sells the bonds. That this is the case may be seen

from the fact that whenever bankers offer an additional block of bonds of an issue already outstanding the price conforms closely to the open market price of the old bonds. Recently $100,000,000 French Republic 7s 1949 were offered to the public at 94, a 7.53% basis. On the previous day the 7½% bonds due 1941 of the same government closed at par, a 7.50% basis. Certainly the investor who bought bonds of the new issue at the offering price was not paying more than the fair market price for them!

It is, of course, true that occasionally a bond house misjudges the market for a new issue or that in the scramble to bring out new issues in a favorable market all the bond houses together overload the absorptive capacity of their customers. Under such circumstances the termination of the syndicate which has underwritten a given issue is sometimes followed by a decline of several points in the price of the bond. On the other hand, in a strong market a new issue of bonds may immediately go to a premium above the offering price. In such a market as that of the last six months of 1921 there were numerous instances of this kind. For example, Western Union 6½s, 1936, and New York Edison 6½s, 1941, are leading issues which never sold below their offering prices. Such fluctuations are in any event of minor significance to the experienced investor. He buys his bonds for safety of principal and assured income. Even the temporary lack of marketability which a sharp drop in a given issue on termination of the syndicate may indicate is of no particular importance since it occurs at just

the time when he is least likely to need marketability.

Availability of Information

As far as price goes, there is thus no reason why an investor should discriminate against new offerings of bonds by reputable houses as compared with seasonal issues. Indeed, as a practical matter, there is a certain advantage in buying a bond of a new issue. At the time of offering the salesmen of the distributing houses are primed with a wealth of up-to-the-minute information covering the issue which is readily available to the prospective investor. Such an investor then has all the data he can possibly use as a basis for reaching an opinion as to the attractiveness of the issue. If he is interested instead in an issue of which the offering house may have picked up an odd lot to round out its list, it is probable that the information readily available may be considerably less detailed. The investor who selects tentatively out of the whole range of the market a particular issue as being apparently very attractive will as a practical matter encounter some difficulty in getting sufficient information to afford a sound basis for a final conclusion.

The Most Attractive Bond

Purchase of a bond from a distributing house in the original syndicate has the further advantage that an up-to-date house will take pains to keep an investor informed as to developments affecting his bond. The investor who has purchased the same bond on his own initiative in the open market may,

unless he is unusually well informed, remain wholly in the dark as to such developments.

The shrewd investor will purchase the most attractive bond, all things considered, of which he is informed at the time he is in funds. Actually he is most likely to be informed of new issues, but as his experience of the bond market grows there is, of course, no reason why he should not look to the whole range of the market in making his choice. Where he does go into the open market for a particular bond he must realize, of course, that he is standing entirely upon his own feet, that the broker who executes his order for a trifling commission assumes no such moral responsibility for the bond as any reputable bond house assumes in some degree when it offers an issue with its recommendation.

A Matter of Temperament

Somewhat akin to the question of new bonds or old is that of preferring listed to unlisted bonds. Many investors like to see the bonds which they hold quoted daily in reports of Stock Exchange transactions, deriving a dubious pleasure from watching the fluctuations in value so recorded. Other investors, quite the opposite in temperament, prefer investments which do not fluctuate in value and are prone to mistake the shadow for the substance, thinking that quotations which are not widely published do not exist at all. A moment's consideration should show that a 6% long-term bond can never in the nature of things possess the stability of value of a 2% bank deposit.

Listing and Marketability

Fundamentally, the investor who insists on buying only listed securities is confusing listing with marketability. While the purpose of a Stock Exchange is to provide a broad public market for securities, there are many obscure issues listed on every Exchange which remain decidedly inactive. The country's leading Stock Exchange is no exception. Many little known issues of bonds are listed on the New York Stock Exchange, seldom sell there and are quoted by specialists at bid and asked prices very much further apart than numerous well known and widely held but unlisted issues. Thus in all of 1922 only $17,000 of Ulster & Delaware first refunding 4s, 1952, sold on the New York Stock Exchange and a spread of five or six points customarily existed between bid and asked price of the issue. On the other hand, Southern California Edison general and refunding 6s, 1944, are not listed on the New York Stock Exchange, but dozens of dealers throughout the country are ready at any time to quote a market on the bonds either way with a spread of a point or less. In other words, a bondholder who wished to raise money quickly by the sale of one of these two bonds could do so much more readily and with much less sacrifice as to price, not only in Los Angeles but in New York, by offering the unlisted bond.

Local Stock Exchanges

If listing on the New York Stock Exchange affords no guaranty of ready marketability, still less does

listing on a local Stock Exchange. In many states blue sky laws necessitate a large amount of red tape in connection with offerings of securities which can be avoided by the simple expedient of applying for listing on a reputable Stock Exchange. Many issues are listed as a result which never actually have any more than a nominal public market. One important Stock Exchange has in the last four years admitted to its list five bond issues underwritten by a local house whose offerings seldom have anything better than a "one-house" market. Except for nominal initial transactions no one of these five issues has ever sold on the floor of this Exchange. As an index of marketability, listing is in these cases, and many like them, of not the slightest value. The size and quality of a given issue and the number of houses participating in the original offering rather than its listing or lack of listing determines its marketability.

How Much Marketability?

How much marketability an investor needs in his bonds is entirely a matter of individual circumstances. The business man whose bonds may be a last line of reserves in case of emergency must have marketability. He should keep a substantial proportion of his funds in short-term securities to boot. On the other hand, the investor who lives on his income from bonds would be foolish to sacrifice income to a high degree of marketability. Yet as anyone may unexpectedly need ready money he would be equally foolish not to include some readily mar-

ketable issues among his holdings. In considering the marketability of any issue the investor should remember that it is a factor for which he must pay or for whose absence, comparatively speaking, he should be compensated in a substantially higher yield.

The bond which the shrewd investor will buy at any time may be one of a brand-new issue or one which has been a market favorite for many years, it may be a bond listed or to be listed on the New York Stock Exchange or one listed on no Exchange at all. Mere ignorant prejudice can lead a man to say "I will buy no new issues" or "I will buy no unlisted bonds." The shrewd investor will buy that bond, new or old, listed or unlisted, which is the most attractive from the standpoints of security, marketability and yield of all the bonds within the range of his information.

ARTICLE VII

WHAT FOREIGN BONDS ARE SAFE?

WITH exceptions which could be named on the fingers of one hand no important foreign government loan had been floated in the United States before the World War. During the war, however, the desperate need of the combatants for funds resulted first in the sale by Europeans of the lion's share of their holdings of American securities and then in the flotation of large loans by the Allies. Lively sympathy for the Allied cause had a good deal to do with the rapid absorption of English, French and Russian bonds. Today foreign financing is almost wholly on a business basis. With the needs of Europe for reconstruction and of South America and Asia for development pressing the volume of foreign bonds floated in this country is likely to be limited only by the capacity of our market to absorb them. How can the investor tell which of them are safe?

A Bond Salesman's Surprise

The average investor is pretty much at sea when it comes to judging foreign bonds. The experience of a certain bond salesman is typical. When the $25,000,000 Government of Switzerland 8% loan was offered in 1920 he approached a wealthy retired farmer of Swiss birth, confident of a sale of substantial size. To his surprise he found his prospect

lukewarm. "Switzerland is a small country," he said, "its area very mountainous, its soil sterile. The issue doesn't appeal to me." A few weeks later, with considerably less confidence, the salesman offered the old man bonds of the 8% French loan. To his surprise he made a $30,000 sale, his customer displaying considerable enthusiasm for the obligations of a country so large, fertile and wealthy as France. His customer does not yet understand why the one bond has never sold below its offering price and has sold as high as 122 while the other has never sold so high as 109 and has sold below 90.

The wide movements of foreign bonds in the last few years reflect the difficulty which American investors have found in determining the relative merits of foreign issues. A few issues like the 8% Swiss loan have maintained large advances above their offering prices while many others have fallen far below them. The offering of the 8% bonds of the Czechoslovak Republic in April, 1922, was an instantaneous success, the bonds rising to a premium of 4⅜ points above their offering price. Only a few months later, however, they were selling twenty points below it.

Good Faith Fundamental

Foreign government bonds are all alike in one respect. Whether the borrowing government be Ecuador or Great Britain the lender, or bondholder, enjoys no real security except the good faith of the borrower. The creditor of a domestic corporation may resort to the courts to secure payment of

his claims; the creditor of a foreign government has no such agency at his command in case bad faith or woeful mismanagement of its finances results in a default in payments of interest or principal of that government's bonds. To a very limited degree this statement may be modified in the case of a few small countries. For example, Cuba is to a certain extent a ward of the United States. In case of gross misgovernment in Cuba the United States may intervene. Cuba may contract foreign loans only with our approval. Thus as a practical matter the United States government might be expected to take such steps as would be necessary to see to it that Cuban credit was not endangered.

The Will to Pay

In general two factors determine the credit rating of a foreign government, its will to pay and its ability to pay. Of the two the first is of overshadowing importance. Few countries have ever contracted debts actually so burdensome that interest and a sinking fund could not be paid. Furthermore, the wealth of a progressive country is always increasing so that a debt which seems staggering to one generation proves only a moderate burden to the next. It is quite possible, of course, for a country which borrows money to pay a portion of current expenses to get into a critical situation. Not only does interest on past borrowings rapidly increase the government's annual expenses, thus making it more difficult for it to balance its budget, but the habit of spending more than its income is as easily ac-

quired by a government as by an individual and is as difficult to correct.

A Nation's Record

The most important and the most easily secured evidence of a government's will to pay its debts is its past record. Punctiliousness in paying its obligations for generations such as is a feature of the history of Great Britain entitles a country to a high credit rating notwithstanding a heavy burden of indebtedness and economic difficulties such as may cause chronic unemployment of hundreds of thousands. Thus the market position of United Kingdom 5½s, 1937, which sell to yield only a trifle over 1% more than partially tax-free Liberty bonds, is fully justified. At the other end of the scale we have a country such as Ecuador which has been chronically in default on its external loans for nearly a century.

It sometimes happens that investors give undue weight to past history in determining a country's present credit rating. It would be absurd, for example, not to recognize the profound changes wrought by such an event as the war. Only two countries in the world emerged from the war with credit unscathed, the United States and Japan. Some other countries were only lightly touched while the credit of others was seriously impaired or totally destroyed. Present conditions must thus furnish considerable of the evidence on which a country's present credit rating is to be judged. In the case of a new country like Czechoslovakia, in-

deed, present conditions will form the principal basis of judgment.

Current Conditions

What conditions should influence the investor in determining whether a country is a good credit risk? For one thing, the country should be paying its way out of current revenues. In case a government is piling up a debt there should be some very good reason for it, such as a war or some similar emergency. The failure of France to balance her budget since the war, resulting in accumulating the heaviest debt per capita ever voluntarily contracted by any people, undoubtedly explains in the last analysis the present market position of French dollar bonds. The rapid growth of France's debt can be excused much more convincingly than the borrowings of some other countries which lack the long and honorable record of France, but investors naturally compare the policy of France with that of Great Britain, which has balanced her budget in the face of problems hardly less difficult. It is frequently difficult or impossible to learn whether a country has actually balanced its budget, published figures often being mere estimates. An investor will naturally resolve a doubtful case in his own favor.

Exchange Rates

The level at which a country's currency is quoted throws considerable light upon the soundness of its finances. An unbalanced budget frequently leads to

inflation of currency with consequent declining quotations. It is a pretty fair assumption that a country whose currency is quoted close to par has been economically administered and deserves high credit rating. It is no accident that the Swedish krona is quoted at about 99% of par and Swedish 6s, 1939, on nearly the same basis as United Kingdom 5½s. The achievement of a new country like Czechoslovakia in stabilizing its currency even at a level around 15% of its theoretical par is decidedly favorable to that country's credit.

Debt per Capita

In selling arguments to investors bond salesmen are very apt to stress low debt per capita of a given country as being favorable to its credit. The size of a country's debt per capita is, however, a minor factor. A country with a backward population, undeveloped industries, a crude system of taxation, may find the interest on a debt of $30 per capita a far heavier burden than a highly civilized country a debt of $500 per capita. A thrifty and industrious people will have no difficulty in earning, collectively, a surplus above consumption amply sufficient to pay the interest on any reasonable amount of debt, while a backward people may consume all they produce or more and have nothing left to take care of their obligations.

Furthermore, undeveloped natural resources are no security for national debt, as many investors assume. Government debts are carried and slowly paid off out of national income. Unmined minerals,

untilled acres, unharnessed waterfalls can carry no part of the burden.

Phantom Security

Some bond issues of countries whose credit is not of the highest enjoy the phantom security of a lien on specific revenues. The difference between a lien or mortgage on specific revenues of a foreign government and a lien on specific property of a domestic corporation is vast. No sovereign government would for an instant brook interference with its collection of its own revenues by nationals of another power. The subordinate promise to forward proceeds of a given tax at stated intervals to a foreign bank is exactly as good as and no better than the major promise to pay interest and principal of the bond issue. Occasionally, to be sure, in such a general readjustment of a country's debt as that of Brazil in 1914 some bond issues so secured may enjoy preferred treatment, but in general the investor may safely regard such a feature of a bond issue as evidence of weakness rather than of strength.

There are certain small countries which stand in relation to larger countries or to groups of larger countries in the nature of protectorates. Their finances may be controlled by citizens appointed by or with the approval of the larger power. The pledge of revenues so administered does usually give the bondholder tangible security of considerable value. The arrangement between a group of international bankers and the republic of Salvador, in-

formally approved by the secretary of state of the United States, is a case in point. The Salvador 8s, 1948, are secured by a first lien on 70% of customs revenues, which are payable directly to an American fiscal agent of the loan in Salvador. In view of this arrangement and the exchange of notes between Salvador and the United States by which the latter government took cognizance of the terms of the loan, the smaller country is not likely to treat its obligation lightly.

Investment and Speculation

The investor who is primarily concerned with safety will find in the dollar or other sound currency obligations of a few countries with perfect credit records, which emerged from the war with little or no damage, suitable media for a moderate portion of his funds. The general run of foreign bonds offered contain more or less of a speculative element. In speculating in bonds it might well be borne in mind that the opportunity of capital appreciation is a better speculative opportunity than a high yield carried by a high coupon rate bond selling close to par. Thus a 5% or 6% bond selling at a substantial discount is often to be preferred to an 8% bond selling near par.

ARTICLE VIII

MUNICIPALS—THE LARGE INVESTOR'S FIELD

One type of bond—and a type which makes a strong appeal on the point of security—through an artificial demand created by our tax laws has a diminished attraction for the small investor.

The size of an investor's income determines at once whether he should buy municipals or taxable bonds. The investor with a $75,000 income will get approximately the same net return from municipals yielding 4.50% as from corporation bonds yielding 6% and save a certain amount of trouble in making out his income tax return. On the other hand, the investor with a $10,000 income would have to buy municipals to yield 5.50% to get as large a net return as he might obtain from 6% corporation bonds. Good municipals do not sell so close as this to the basis for good corporation bonds, hence the smaller investor can hardly afford to buy municipals.

An Ancient Form of Security

Cities are older than nations and municipal borrowing long antedated issuance of corporate securities. Municipal bonds were traded in long before railroads were built, municipals were prime investments when industry and trade were still

entirely matters of individual enterprise, individual risk, individual profit. As the units of enterprise grew in size and complexity, corporate financing became more and more common, investors grew familiar first with railroad bonds, then with public utility issues, finally with industrial obligations. From being the principal medium of investment outside the field of individual real estate mortgages municipals sank into relative obscurity.

Why Municipals are Tax-Exempt

From this position the passage of the federal income tax law rescued municipals. Prior to the passage of the 16th amendment it was well settled that municipals were not subject to taxation by the federal government. In theory the United States is a union of sovereign states. The power to tax is the power to destroy. To have admitted the power of the federal government to tax the instrumentalities of the states, their bonds or the bonds of their minor subdivisions, would have been to deny this sovereignty. Despite the fact that the 16th amendment explicitly confers upon Congress the right to tax income "from whatever source derived," municipals have been held by the weight of authority to be still tax-exempt and apparently only another constitutional amendment will put them in the same class with other bonds. Until such action is taken municipals will remain the leading refuge for the wealthy investor and of major importance in the field of investments. On the other hand, leading states with income tax laws of their own tax the income from bonds of other states. To get the maxi-

mum earning power from his money the large investor must keep familiar with changing tax laws, federal and state.

Some Legal Questions

Far more than the investor in any other field the buyer of municipals must concern himself with matters of law. Before purchasing a particular bond he should know whether it is valid in its inception, that is, whether the borrowing municipality had the right to create a bond issue, whether all the proceedings leading to the issuance of the bonds were properly taken. He should know furthermore to what extent the municipality in question is obligated to pay the bonds, whether the issue constitutes a general obligation of the entire municipality or whether it is payable merely out of special assessments on a limited amount of property within the municipality. He should also know whether the power of the municipality to levy taxes to pay the bonds is limited in any way.

These technicalities determine the relative safety of municipal bonds. While it is true that for the past twenty years no important American municipality has defaulted on any of its bonds, it is not true that an investor can buy any municipal bond indiscriminately. In former days a considerable number of municipalities defaulted.

Some Unpalatable Facts

Two eras in American history have been unpleasantly distinguished by repudiation of state debts.

The first era was precipitated by the panic of 1837 and was, like the panic itself, caused by a wave of feverish speculation in "internal improvements," mostly canals and turnpikes. State credit was freely lent to such enterprises and upon the collapse of the boom repudiation followed in many instances. It should be noted that inasmuch as a state is sovereign no legal action can be brought against it to compel it to pay its bonds. Debts contracted by "carpet-bag" governments of southern states in the reconstruction era were repudiated by a number of those states when their governments were once more in southern hands.

In each period of general repudiation the victims were distant investors, in the first case largely English and in the second case citizens of the northern states. This fact may provide food for thought for those who hold that foreign governments very heavily in debt as the result of the war may be expected in the event of a conflict of interests to give holders of dollar bonds preference over their own citizens.

Troubles of Reconstruction Days

Certain of the states have not been alone in defaulting on their bonds within a few decades. After the Civil War much railroad mileage was constructed with the aid of cities and counties which issued bonds for the purpose. In many cases debts so contracted proved an intolerable burden and were defaulted. Unlike a state a city or county or minor subdivision is not sovereign but is a corpora-

tion created by the state and is subject to legal action. Municipalities defaulting payment of their bonds have usually defended their action on the ground of alleged irregularities in their issuance. Some dozen years ago a leading authority compiled a list of 249 municipal bond issues held illegal after being issued.

The rarity of defaults in recent years may be ascribed largely to the great care which experienced bond-buyers now take to assure themselves that a bond issue is legal in every detail. The first thing such an investor looks for on a circular offering an issue of bonds is the legal opinion of some attorney who is a recognized authority in the field.

The Importance of Adequate Taxing Power

Generally speaking the holder of a municipal bond must look to the taxing power of the borrowing municipality for satisfaction of the debt. Primarily municipal bonds are merely devices for spreading the cost of major municipal improvements over a period of years. Sinking funds or serial payments should extinguish the debt within a reasonable period. It is of first importance to the bond-buyer to be sure that taxes will provide revenues amply sufficient to meet interest and sinking fund charges on the debt of the municipality. Obligations of municipalities whose taxing power is limited will not find favor with conservative investors. Ohio cities have suffered in the not distant past from inability to levy taxes sufficiently heavy to pay running expenses and meet debt

charges. A city so hampered may resort to various makeshift expedients, such as the accumulation of a heavy floating debt until the legislature affords relief. Such a city may be tempted even to issue bonds to meet current expenses, thus still further weakening its credit to gain temporary relief. It should be recognized by the bondholder that the courts cannot help him in such a situation. They cannot compel a municipality to levy a tax not authorized by law.

Quasi-Municipals

Certain types of bonds are not payable out of taxes. Bonds issued to finance water-works and other municipal utilities may be payable out of the revenues of the utility. In general water-works bonds are considered secure; other types of utility revenue bonds are not so highly regarded. In certain states bonds are issued by "local improvement districts" to finance improvements whose cost is assessed against the property in the district in proportion to the benefits received from the improvement. Such bonds may be payable only out of assessments as collected. In this case they would be far removed indeed in point of safety from the general obligation bonds of large municipalities. Special assessment bonds should be bought only by the investor thoroughly familiar with the value of the property assessed and the law under which the bonds are issued. Utilizing this knowledge to minimize the risks involved in this field the exceptionally shrewd investor may enjoy yields not otherwise obtainable.

A Field for the Expert

Enough has been said barely to indicate the pitfalls involved in the purchase of municipal bonds. Because of their low yield they will not attract the average investor whose income is a few thousand dollars a year. The large investor to whom they are attractive by reason of their exemption from the federal income tax can well afford to study the intricacies of the laws of many states. By such study he may increase the factor of safety in his holdings of bonds which are, as a general type, unusually secure and may at the same time enjoy a return not obtainable by careless investors or those who substitute prejudice for knowledge.

ARTICLE IX

WHAT TYPE OF CORPORATION IS A GOOD CREDIT RISK?

Many ultra-conservative investors who have started buying municipal bonds exclusively have shunned corporation bonds as "too speculative." They are familiar with the pitfalls of the municipal bond field, or are blissfully unaware of them, but they regard with alarm the risks inherent in investment in corporate obligations. The occasional disaster in the form of a receivership of some large corporation overshadows in their minds the long record of unfailing observance of their obligations which most important corporations have made.

Other investors are accustomed to buying railroad bonds or public utility bonds, but regard industrial bonds with a certain degree of skepticism. To what degree are corporation bonds as a class speculative? By the application of what general principles can the element of risk in the purchase of corporation bonds be minimized?

A Medical Analogy

There can be no question that corporation bonds do contain an element of business risk. A corporation is a human creation and has many human attributes. Its life may be long or short, prosperous or the reverse. Sooner or later, in all probability it must die. The end of its existence may be

sudden, the result of some hidden weakness, but in the vast majority of cases a corporation gives ample evidence of financial ill-health before its dissolution or—to carry the metaphor further—a major operation occurs. The investor who is familiar with the mere rudiments of investment principles and possesses reasonably sound judgment can reduce any risk in buying corporation bonds to a negligible minimum.

A Sociological Viewpoint

If one were to attempt a sweeping generalization as to relative safety in corporation bonds, perhaps it would be correct to say that the safest loan is the one which confers the maximum benefit on society. There can be no question that $1000 loaned to the Atchison, Topeka & Santa Fe to construct and equip its main line between Chicago and San Francisco, thereby providing a service vital to civilization in a vast area, was a better loan from the standpoint of the benefit to society at large than $1000 loaned to the D. G. Dery Corporation to replenish working capital which it had frozen or lost in carrying on the manufacture of broad silks. The United States would be a much poorer country if the Atchison were wiped out overnight, but the obliteration of even the leading manufacturer of broad silks would be of slight consequence in comparison. The investor who had kept such a standard in mind would have avoided purchasing D. G. Dery first 7s at par a few months before

that company went into receivership and its bonds dropped to 55.

The Test of Stable Earning Power

What is the measure of maximum service to society? Broadly speaking and with due allowance for numerous exceptions it is maximum stable earning power. The indispensability of the Atchison to the territory it serves is reflected in earnings several times interest charges year after year; the fact that the Puget Sound extension of the St. Paul provides its territory to but a very limited extent, despite the high standard of its construction and equipment, with service which it would not otherwise have is reflected in the struggle which that road is having barely to cover the interest charges on its bonds.

To show stable earning power it is not enough for a corporation to offer a long history of handsome profits. Such profits may have accrued from the trading or organizing skill of a single individual or small group of individuals. Such skill alone affords no sound basis for a long-term loan, for the skilful management may have been terminated by death before the loan matures. Good management tends to perpetuate itself, but the tendency is hardly security for a bond issue. Only if a long record of substantial earnings is offered by a corporation engaged in providing society some fundamental service, transportation, power, the manufacture of a basic commodity, does it indicate maximum service as a basis for a bond issue.

The Case of New York Tractions

Investors in New York City traction securities know to their sorrow that service does not always bring its proper reward. As the record shows, a community may obtain an indispensable service for a considerable period at less than a fair price, though in the long run the people of New York must pay for their traction service. While the tendency of New York politicians to starve their public utilities has caused investors in New York traction bonds severe losses it was a tendency thoroughly advertised as a warning to more prudent investors. In any event, no prudent investor would have had more than a small part of his funds in the securities of a single type of corporation serving a single community.

The corporation which is capable of rendering maximum service to society is usually also capable of giving the investor who buys its bonds a definite lien on valuable physical property as security. Thus the investor whose funds form the bed-rock on which the whole Atchison financial structure is built holds that road's general mortgage 4s, secured by first mortgage on practically all the main line of the system. On the other hand, the D. G. Dery Corporation in financing its swollen bank loans could offer no better security than a first mortgage on silk mills which, whatever their cost to reproduce, were by no means indispensable to the country's prosperity or even so well constructed, located or equipped that equally low-cost mills could not fairly easily be built.

Railroad Values

In general it may be said that a piece of property of unique value affords the best basis for a mortgage bond issue. In the railroad field, for example, the main line of a road like the Atchison is such a piece of property. Construction of a competing system other than those already in existence would be so costly and useless an enterprise that no one is in the least likely to undertake it. The Atchison continues to give good service, stimulated to some extent by moderate competition no doubt. The value of its property remains practically unique. On the other hand, the Chicago Great Western, a system whose main lines connect Chicago with Kansas City, Omaha and Minneapolis with relatively little branch mileage, operates in a field where competition is intense. The road offers no service, except to a few small and unimportant communities, which other roads cannot perform as well or better. Its main lines between its termini are in every case but one longer and more costly to operate than the lines of competitors. As might be expected from these facts, the record of earnings of the road is mediocre, its first mortgage bonds correctly valued in the market at considerably less than second or third mortgage bonds of more essential, more profitable properties.

Basic Industries and Others

On the whole, of course, railroad property offers excellent security for mortgage bonds. It is to a

high degree permanent. The railroads of a country are the very arteries of its civilization. Airplanes and automobiles may compete with them for traffic requiring high speed, but we can hardly conceive of any substitute for railroads to transport commodities in bulk over long distance.

In the same way public utility properties, electric light and power, gas, telephone, are essential to civilization at its highest level. Certain kinds of public utility property, hydro-electric plants for example, are naturally of unique value. A waterfall cannot be duplicated. The intelligence of society has for the most part seen the folly of duplicating other sorts of public utility property and in the main public utility companies operate with little or no competition. Their properties are to a high degree of permanent value.

The property of industrial corporations is subject to no such sweeping generalizations. Certain kinds of industrial property are inherently of permanent value. For example, a well located steel mill with its own supplies of ore, coal and limestone is sound security. Its product is a basic necessity, its costs and profits determined in considerable measure by its location and the character of the natural resources. A favorable past record of earnings is pretty sure to be maintained with reasonably good management. At the other end of the scale may be a company manufacturing some article of luxury, say musical instruments. Success in such a business depends almost wholly upon a high order of skill in management. Without that skill the corporation's physical assets are hardly better than

so much junk, certainly no security for a loan of ten to thirty years' duration.

Mortgages and Debentures

Because so much is said here about mortgage security, is it to be inferred that unsecured debentures are not to be considered by conservative investors? By no means. Debentures of many corporations with fine records rank very high as investments. It is always a question, however, whether the mortgage bond of a sound corporation is not to be preferred to the debenture of a corporation whose credit is so widely and favorably known that its debentures sell on an unusually low-yield basis. Certainly the conservative investor will not forget that debentures are always technically in a weak position, possessing neither the security of a mortgage nor the profit possibilities of common stock. Debentures of an unseasoned industrial company are close to the bottom of the scale of bond investment.

ARTICLE X

RAILS—THE BEST KNOWN KIND OF CORPORATION BOND

The first type of private enterprise which made any appeal to the general public for investment funds was transportation. In earlier days, until much less than a century ago, mercantile enterprises and the simpler industries of a simpler era could very easily be financed by individuals or small groups in partnership. If overland transportation, however, was not to be financed by states and municipalities, the combined capital of very much larger groups of individuals was necessary. Before the invention of the railroad, canals and turnpikes were frequently financed by stock companies, their stocks being fairly widely distributed to the public. The earliest railroads were also financed by stock issues, creation of funded debt being a later development of railroad finance. Until within a comparatively few years the New England roads, for example, remained almost free from debt.

Trading on the Equity

It was not many years after the era of railroad development began before financiers discovered the principle of "trading on the equity" and began to apply it. The principle may best be explained by a simple illustration. If a $15,000,000 property can earn on the average 7% on the investment and half

this capital can be raised by the sale of 5% bonds, it is obvious that the balance available for dividends on the stock representing half the investment will be 9% on this stock. If this hypothetical project could be financed to the extent of two-thirds by 5% bonds, balance for stockholders would average 11% on their investment. Application of this principle is obviously limited by the fact that the earnings of any enterprise are subject to considerable fluctuations. If bonds constitute too large a proportion of its capitalization, it may in a period of depression be unable to meet even its interest charges.

Carried to its logical extreme trading on the equity may result in one group, bondholders or preferred stockholders, putting up all the money and another smaller group retaining control through majority common stock issued for a purely nominal consideration. Under these circumstances the controlling interests have everything to gain and nothing to lose from the success of the enterprise, but such is human nature in reality that unsound financing of this kind almost invariably ends in disaster.

Growth of the Railroad Unit

Other considerations than those of profit early dictated issuance of bonds in financing railroad construction. The first roads to be built were small affairs designed for local traffic, usually connecting important communities thirty or forty miles apart. From a dozen or so disconnected small lines of this character Commodore Vanderbilt formed the

New York Central, filling in the gaps in the line between New York and Buffalo and spoiling a thriving equine taxicab business in the towns which had previously been termini. All new railroads thereafter were projected on a much greater scale, far more than local capital was needed, distant investors demanded security, and bond financing became commonplace.

Early experiences of the investing public with railroad bonds were not always satisfactory. The failure of Jay Cooke & Co., after interest on $30,000,000 Northern Pacific "7.3s" which they had sold broadcast over the country was defaulted, precipitated the panic of 1873 and postponed for decades the development of the bond business as we know it today. Almost without exception railroads like the Northern Pacific which were projected on a grand scale eventually went into receivership. The railroads of the country whose history includes no receivership mostly grew to their present size by gradual absorption of smaller roads.

A Corporation's Credit Record

Municipals and corporation bonds differ radically in that a history of default by the borrower, or its predecessor, has a distinctly unfavorable effect on municipal credit while the effect of a similar incident in the case of a corporation is soon forgotten. The reason is simple. A municipal default is usually due to lack of character and the bondholder has no assurance that this weakness may not crop out again. Seldom does it happen that a

municipality cannot pay its debts if its citizens are fundamentally honest enough to recognize their obligations and tax themselves accordingly. Default on a railroad bond indicates no such moral disaster, though the road may have been mismanaged. A railroad or other corporation cannot long pay the interest on its bonds if its earning power, for any reason, is insufficient. It is up to the bondholder in making the loan to see to it that earning power is sufficient and to watch developments closely enough to be sure that earning power is maintained at a satisfactory level. If, however, earnings do prove insufficient, it is simply a practical matter of readjusting capitalization in such a way that interest on a smaller debt will be covered by the earning power of the enterprise. If this is satisfactorily accomplished as indicated by actual results for a few years, the investor is satisfied. A municipal default of thirty years ago would considerably lower the rating of bonds of the same municipality today. On the contrary, Atchison general 4s are properly considered as offering the maximum of security in railroad bonds despite the fact that the road passed through a receivership in the nineties.

Despite the fact that the history of railroad finance has literally been strewn with incidents of default and receivership railroad bonds are a favorite medium of conservative investment. To a certain extent, of course, they are sanctified by age, as investors have been familiar with them for decades. There are also plenty of sound reasons for their favored position. A railroad is inherently about as stable an enterprise as we can imagine. Unless

our civilization is to relapse into barbarism we shall always need railroads to transport bulky products long distances. The superior flexibility of the motor truck may give it an advantage for short hauls, but costs of motor trucking for long hauls must necessarily be prohibitive. One cannot imagine hauling structural steel from Pittsburgh to Richmond by truck.

Nature of Railroad Property

Not only is a railroad essentially a permanent enterprise but its property is ideally adapted to the rôle of security for a bond issue. The bulk of it consists of land, right of way and terminal property. If one will try to imagine the cost of constructing a new railroad between New York and Chicago, he will get some idea of the value of main line railroad property between important traffic centers. The character of the "improvements" on a railroad's land is also to a high degree sound security for a bond issue. Tracks, bridges, stations are all comparatively long-lived. An issue of railroad bonds is thus closely analogous to a real estate mortgage. As well located, well improved real estate is excellent mortgage security, so a well located, well managed road is sound security for its bonds.

Equipment Trusts

Essential to the operation of the other physical property of a railroad is its equipment. While cars and locomotives are not so permanent in nature

as roadbed, track and terminals they possess the advantage of mobility. The possessors of a chattel mortgage on railroad equipment have the borrowing railroad at their mercy in case of default and have the further advantage that the equipment is readily salable to another road. Equipment trust certificates issued for substantially less than the value of the equipment and maturing serially within the reasonably anticipated life of the equipment, say fifteen years, are thus in a very strong position. The history of equipment trusts is actually one of almost 100% freedom from defaults so that even the equipment obligations of so-called "weak" roads are thoroughly sound investments. Of course, equipment of a specialized type does not offer such sound security as standard equipment.

Rails for Savings Banks

The standing of railroad bonds as investments is indicated by the fact that, except for governments and municipals, rails are the principal class of bonds permitted for investment by savings banks in leading states. The savings bank investment law of Massachusetts is typical of these statutes. It provides essentially that mortgage bonds of any railroad more than 500 miles long which has paid at least 4% dividends on its common stock for ten years shall be legal investments. The law thus recognizes the superiority of mortgage to debenture bonds, the strength of an important system as compared with a local line and, in a left-handed way, the necessity of sustained, adequate earning power.

A further provision that refunding mortgage bonds shall be legal only if the issue is limited to such an amount that total mortgage debt shall not exceed three times the amount of capital stock recognizes the necessity of maintaining a proper relation between funded debt and the investment, or equity, of shareholders.

Legal Bonds for Individuals

Because the field of savings bank investment is so limited, competition among the banks for legal bonds is keen, reducing yields as a rule to a level unattractive to discriminating individual investors. Fortunately the savings bank investment laws of Massachusetts and New York, the two principal states with mutual savings banks, are so crudely drawn that many thoroughly sound issues are not on the legal list. The bonds of a railroad whose earning power is ample and has increased over several years are certainly preferable to those of a road whose earning power has shown a tendency to decline, even though by straining a point it may still be paying dividends. As between the bonds of two such contrasting roads, the discerning investor will be able to select for stronger security and greater yield.

ARTICLE XI

WHAT ARE THE SIMPLE TESTS OF SAFETY IN RAILS?

As a class, rails are not only the best-known type of corporation bond but are the most easily analyzed of any class of investment securities. Safety in governments and municipals depends largely upon intangible factors. Information regarding the earnings and financial condition of public utility corporations and, particularly, industrial corporations is not always readily available. In the case of industrial corporations conditions change very rapidly and a business which is very prosperous one month may be barely breaking even a short time afterward. The sudden shift in the tire industry from large earnings in the early spring of 1923 to a desperate struggle for existence by summer is a case in point.

Wealth of Information Available

No such wealth of information concerning any other group of corporations is available as that covering the railroads. They must report their earnings in detail to the Interstate Commerce Commission monthly and these reports are widely published. The holder of railroad securities can thus check the progress of the roads in which he is interested month by month. If the trend is down-

ward when other roads are making money, he receives timely warning to switch to some other security. There is no excuse for any careful investor's holding a railroad bond which defaults. The Minneapolis & St. Louis had not earned its interest charges for five years and during this period had accumulated a working capital deficit of more than $6,000,000 when it went into receivership in the summer of 1923. A year previously its refunding 4s had sold as high as 50, at which level they were doubtless regarded as bargains by those who bought them. Neither the receivership nor the drastic decline in the bonds to a price below 20 should have been surprising to anyone who took the trouble to look into the record of the road.

Prospective Receivership a Test

The prospective purchaser of a railroad bond needs to ask two questions to determine its relative safety: How remote is the likelihood that the road may go into receivership? What will happen to the bond in question, if it does? The average investor does not like the idea of a receivership at all, preferring, ostrich-like, to close his eyes to the possibility. The alert investor who recognizes the possibility of a receivership, weighs the chance that it will occur and analyzes its probable effect will not only avoid the loss occasioned by such unhappy events but may even take advantage of them. No important railroad ever tears up its tracks; receivership merely recognizes the necessity of a readjustment of finances.

In such a readjustment different bond issues receive radically different treatment, according to the strength of their position. Thus the seven-year receivership of the Missouri, Kansas & Texas Railway offered the discriminating investor numerous opportunities of obtaining the road's first mortgage bonds below 60. To those who knew that the bonds were in by far the strongest position of any issues of the road, that the road had earned on the average for a number of years considerably more than the $1400 per mile necessary to pay interest on this senior issue, that it had continued interest payments, allowing a six-months' period of grace, on the first 4s while defaulting on junior bonds, the bargain-counter nature of such a price level was obvious.

A Standard of Earning Power

The average investor will probably continue to shy away from the bonds of a road actually in receivership and to desire to avoid receivership altogether. What standard of earning power will insure a road against receivership and put its senior bonds, at least, in the gilt-edged class? A study of the roads whose bonds are legal for savings banks in New York will suggest an answer to this question. The 24 major roads some of whose bonds are legal for New York savings banks in the last five years earned their interest charges an average of 2.36 times, the best road showing average earning power of better than four times interest. Some roads whose bonds are legal showed average earning

power for the period of but one and one-half times charges. Unless the trend of its earnings over a period of, say, five years has been downward, perhaps earning power of one and one-half to two times interest charges is sufficient to indicate that the danger of receivership is too remote to be considered as a practical matter. If the trend of earnings over a five-year period is upward, perhaps a still smaller margin of safety may suffice to establish tentatively the investment character of a road's bonds.

Underlying Bonds of Weak Roads

Carry the application of the margin of safety a step further. Are not the underlying bonds of the Erie, for example, safe investments even though the road has earned its interest charges on the average but 1.31 times over the last five years and in board-room gossip has frequently been on the brink of a receivership? This slim margin of earning power applied to the New York & Erie fourth extended 5s, 1930, and prior liens covered charges on them better than five times. Despite this record this particular bond sold recently on a 6% basis while many junior bonds of stronger roads, no better secured if so well, were selling on a 5½% or better basis. It is among the underlying bonds of the roads of moderate earning power that the careful investor will find maximum yield with safety.

Complications of Funded Debt Structure

The average investor who attempts to make his selection in such a field is appalled at the outset,

however, by the complexity of a railroad's financial structure. The Baltimore & Ohio, fairly typical in this respect, has some twenty-five different bond issues outstanding in the hands of the public. How shall one determine the degree of security which each of these different issues possesses by reason of its mortgage position? It is not so hard as it looks. Obviously a first mortgage has a stronger claim than a second mortgage on the same piece of property. On the other hand, a second mortgage on several hundred miles of main line may be much stronger security than a first mortgage on fifty miles of branch line. The latter might be abandoned as unprofitable in a reorganization, but the main line is vital to the road's continued existence. There are branches and branches, of course. The Baltimore & Ohio's line from Valley Junction to Cleveland, Ohio, might be called a branch, but it taps a very important traffic center and hence is undoubtedly of great value to the system. A first mortgage on this mileage at the rate of $73,000 per mile is unquestionably more secure than a first mortgage on the branch between Romney and Petersburg, Virginia, at $16,000 per mile.

Other things being equal, the more mileage covered by a bond issue, the better. The refunding mortgage 5s of the Baltimore & Ohio, covering practically the whole system with a blanket mortgage first as to certain mileage, second as to other mileage and so on, are better secured than the Toledo-Cincinnati Division refunding 4s, secured by first collateral lien and junior collateral lien on a portion of the system.

Other things being equal, again, the smaller the debt per mile the better. Other things are often far from equal. A bond issue outstanding at the rate of $20,000 per mile secured by the main line of a weak road, like the Minneapolis & St. Louis, is not to be compared in security with a bond issue at the rate of $100,000 per mile secured by main-line mileage of a strong road like the Pennsylvania. It is the ratio of earning power to interest requirements that counts. As between bonds secured by two equally good portions of the same system, debt per mile decides relative quality.

Closed Mortgages

The nature of the mortgage under which bonds are issued affects their quality considerably. It frequently happens that an underlying bond issue is "closed," that is, that all the bonds authorized under the terms of the mortgage have been issued or the terms of a junior mortgage provide that no more of the underlying bonds may be issued. Such bonds are in far stronger position than those of an "open-end" issue. Practically all the leading railroads of the country have created a refunding mortgage limited to three times the road's stock capitalization. Under such a mortgage bonds are usually reserved to retire prior liens and the balance may be issued for a large part or all of the cost of improvements. Where security may be diluted by the issuance of additional bonds to an enormous total a bond issue is obviously not so well situated as a closed mortgage issue. In the case of a strong

road or a road whose earnings are steadily improving such refunding mortgage bonds may be thoroughly sound none the less.

The Scarcity of Railroad Bond Offerings

It is unfortunate that railroad bonds, other than equipment trusts, so seldom appear nowadays on the offering sheets of the average bond house that the investor who does not have a definite scheme of diversification is apt not to reserve a sufficient portion of his funds for this leading type of security. Not only are new issues of rails infrequent in comparison with public utilities and industrials but almost all seasoned issues are listed. The commission on the purchase of a listed bond is so small that there is no incentive for the bond house to call the attention of customers to such issues. A few trading houses do pick up odd lots of inactive rails and offer them a point or two above the nominal listed market, thereby performing a distinct service to the investment community.

An investor who is considering the purchase of a railroad bond on his own initiative or another's, should consider the bond with the aid of a map, showing just what it covers, whether main line mileage or branches and how substantial a part of the system. He will then ask how average earnings per mile of the issuing road compare with the amount required per mile to pay interest on the bond issue in question and all bonds secured by a senior lien on the same mileage. With this information he can form an intelligent opinion of the security of the prospective investment.

ARTICLE XII

IS THE POPULARITY OF PUBLIC UTILITIES JUSTIFIED?

THE heading of this chapter immediately suggests a prior question. Are public utility bonds popular among investors? The answer is readily available in the figures of bond offerings. In the year 1920 a total of $1,234,000,000 long-term corporate bonds and notes were sold to the investing public of the United States. Of this total public utility offerings constituted $218,000,000 or 17.7%. Output of long-term corporate bonds nearly doubled in the following two years, increasing to $2,304,000,000 in 1922. Volume of public utility bond financing in the same period nearly tripled, reaching $632,000,000 or 27.4% of total offerings in 1922. In 1923 total corporate bond financing topped the 1922 figures only a trifle, but public utility financing continued to grow so that during this period 34.8% of the corporate bonds offered by the investment houses of the United States were public utility bonds. In 1924 both total volume and volume of public utility financing made new records. The proportion of public utility offerings held close to the previous record, at 34.2%.

This great increase in volume of financing reflected not only the necessities of the public utility companies for capital to finance their growth but also the increasing popularity of public utility bonds with investors. This great increase in the volume of financing was accomplished without disturbance of the price level. In fact, the Dow-Jones index of

public utility bond prices gained 22.89 points from the low of 1920 to the high of 1922 while the index of highest-grade rails advanced 22.47 points and second-grade rails 19.79 points.

The Public Utility Industries

What is a "public utility" bond? The philosopher might say that any company which remains in business very long performs a service of use to the public or it could not stay in business. In the usual and narrower sense a public utility company is one which furnishes lighting, power, transportation or communication service throughout a given area. Thus gas companies, electric light and power companies, telephone and telegraph companies, street railway companies ordinarily come to mind when the phrase "public utility company" is used. The term is becoming still more limited in the usage of today. Because the trend of street railway company earnings and of street railway company security prices has differed markedly in the last decade from the trend of earnings and security prices of gas, electric, telephone and telegraph companies it is becoming customary to treat traction companies separately. They will not be considered in this discussion of public utility bonds.

One of the most remarkable features of the public utility industry as a whole is its youth. Artificial gas was introduced in Baltimore in 1817, the telegraph was invented only a few years before the Civil War, the first telephone exchange was opened in Boston in 1876, the first commercial electric light

plant on Pearl street, New York City, as recently as 1882. The presiding genius of this latter venture, Thomas A. Edison, has seen the industry which he thus founded grow from nothing to a $6,000,000,000 affair. The little station on Pearl street has given way to a series of successors, each larger and more efficient than the last, until the newest station of the New York Edison Co. is a 200,000 h. p. unit.

Growth of Public Utilities

No other industry can show such a record of steady growth and stable income return as the public utility industry. The Western Union Telegraph Co. began business in 1851 and has a history of nearly 75 years unscarred by financial difficulties. More than a quarter-million stockholders of the American Telephone & Telegraph Co. are familiar with the chart printed on the back of its annual report showing the unfaltering growth of that industry. Except for a slight dip in 1921 the electric light and power industry can match the American Telephone chart with a similar one of its own. The gas industry has experienced more vicissitudes, but its record, too, has on the whole been one of steady prosperity.

Stability of Income

In the case of the electric light and power industry stability of income was shown in unmistakable fashion by an analysis made a year ago of the records of the eighty-one largest companies, those with annual output of 100,000,000 k. w. h. or more. Of

these eighty-one companies sixty-seven have preferred stock outstanding and every one of these companies is paying regular preferred dividends. Even more striking is the fact that fifty-one companies have paid regular preferred dividends since such stocks were issued. Of the fourteen companies having only common stock outstanding every one is paying cash dividends and ten have an unbroken dividend record stretching back fifteen years or more. Of thirteen companies incorporated prior to 1900 nine have unbroken dividend records reaching back to 1900. If this is the record for preferred and common stocks, it may be seen what must be the record in the case of bonds of this class of companies.

Considering the nature of public utility companies it is not surprising that they enjoy the stability of earning power which these figures indicate. These companies perform services essential to life under modern conditions, they sell these services on a cash basis, they enjoy a monopoly for the most part in the territories they serve, they carry practically no inventories whose fluctuations in value might cause them loss, they depend to only a very minor extent on human labor for efficiency of operation.

Investment Rating of Utilities

As this stability of income becomes more widely recognized, it is not strange that public utility bonds are crowding rails for the favor of conservative investors. Though there are only some $5,000,000,000 public utility bonds outstanding, compared with

some $12,000,000,000 rails, many conservative investors now include among their holdings fully as many public utilities as rails. Twenty years ago the investor thought he was entering into a transaction fraught with considerable risk when he purchased a public utility bond. At that time the typical electric company served a single community from a local generating plant. Its output was sold almost exclusively for lighting, 60% of sales other than to street railways being for lighting in 1902. When Stone & Webster built a four-mile transmission line in 1891 for the S. D. Warren Co. they not only performed a great engineering feat for that time but made one of the first applications of electricity to industrial power purposes. Ten years later progress in transmission of electricity and in application to industry was still moderate. Today electricity may be transmitted hundreds of miles and power for a wide area obtained from a single plant located at the most advantageous site for economical generation. Sales of electricity to industry outbalance sales for lighting three to one. The electric industry is more nearly a twenty-four-hour rather than a four-hour-a-day business.

The electric light and power business is both the youngest and the most important branch of the public utility industry with an investment of some $5,750,000,000. The telephone and telegraph companies have about $3,000,000,000 in their properties, of which $2,000,000,000 is in the properties of the American Telephone & Telegraph system. The gas industry represents an investment of about $2,000,000,000.

Telephone Bonds

Telephone and telegraph bonds as a class have almost a spotless record and take high rank with investors. Naturally a large issue covering the properties of an important unit in the Bell System ranks somewhat higher than a small issue covering a minor portion of the system. Thus New York Telephone general 4½s, 1939, a $64,893,000 issue secured by first lien on the most valuable telephone property in the country, are better bonds than Home Telephone & Telegraph of Spokane first 5s, 1936, despite the guaranty of Pacific Telephone & Telegraph on the latter issue. Practically all the bonds of companies in the Bell System are so good, however, that the average investor need give little consideration to the slight technical differences in quality among them.

Record of the Gas Companies

Next to the tractions the gas companies were hit hardest by the wave of rising costs which culminated in 1920. Some of the gas companies had hard sledding at that time, but no important receiverships resulted and with costs again on a fairly stable basis the industry is once more on its feet. Mortgage bonds of an artificial-gas company may be considered sound where the company is earning its interest charges on the average twice or better even though it was unable to show that ratio under the stress of "inflation." Natural gas companies are in a very different category from artificial-gas companies since their source of supply is far less certain.

A distribution system of mains throughout a large city may nevertheless be sound security for a bond issue even though the mains carry natural rather than artificial gas for the time being.

The Item of Wear and Tear

Bond salesmen frequently tell their customers that bonds of an electric light and power company which earns double its interest charges are thoroughly sound. So great is the stability of earnings of such companies as a class that this statement is reasonably conservative. It is subject to some modifications. An electric company should make an annual allowance for depreciation amounting to 6% to 10% or more of its gross revenues, depending upon the nature of its business. Some companies consider depreciation an operating expense, deducting it before computing balance for interest; others report net income available for interest before deducting depreciation. Bonds of a company keeping its books in the former way and reporting earnings 1.75 times interest may be really better than bonds of a company whose bookkeeping is less conservative which reports earnings two times interest.

Holding-Company Finance

Investors should also sharply differentiate between bonds of a holding company, unsecured or secured only by stocks of subsidiaries, and mortgage bonds of an operating company. So steady has been the growth of the electric light and power industry that

many large holding companies have been formed with a share capital disproportionate to the volume of senior securities. Numerous instances can be found where combined funded debt of subsidiaries and holding company amounts to eight or ten times stock of the holding company. Income of the holding company applicable to interest on its own bonds may be several times such interest although derived only from dividends on stocks of subsidiary companies not earning their own interest by any impressive margin.

With the development of electrical transmission over hundreds of miles public utility companies are tending to grow in size and complexity of funded debt structure. The company which served one small community twenty years ago may now be part of a large company serving half a state. The latter company may now have more than a score of bond issues outstanding, differing widely in security, marketability and yield, even though all derive strength from the earning power of the entire system.

Analysis by Comparison

In the case of the Pacific Gas & Electric Co., for example, how shall one compare its first and refunding mortgage bonds, of which over $40,000,000 are outstanding, with the $4,056,000 refunding and consolidated mortgage 5s, 1948, of the Northern California Power Co., an underlying issue? The former bond issue is secured by first mortgage on the Pit River hydro-electric development of the company and by blanket mortgage on the whole system,

subject to underlying liens; the latter is secured by mortgage on seven older hydro-electric plants with aggregate capacity of 50,000 h. p. and the distribution system, covering seven counties, subject to $1,600,000 still further underlying bonds. Each issue thus constitutes a lien on electric-generating plants and a distribution system, gas works and distribution systems, each has a claim on the earning power of the entire enterprise. The electric-generating plants of the whole system comprised on December 31, 1922, thirty-two plants with 591,000 h. p. capacity, of which 418,000 was hydro-electric. Total funded debt was $111,700,000 or $188 per horse-power; total funded debt of the Northern California Power unit was $5,656,000 or $113 per horse-power. On the basis of this comparison the conclusion might fairly be drawn that the Northern California Power 5s, 1948, are distinctly better secured than the first and refunding 6s, 1941. They are somewhat less marketable, but not seriously so. The bond thus favored recently sold at 99, a 5.05% basis, comparing with 103 for the Pacific Gas & Electric refunding 6s, 1941, a 5.70% basis. The unbiased verdict of the market thus endorses this analysis.

Power Plants and Wires

In considering divisional bonds of a large electric light and power company it is well to remember that its transmission and distribution system is a permanent thing, barring development of wireless methods of transmitting power, while steam power plants are constantly being improved in design. The

New York Edison Co. gets twenty-five times as much electric illumination out of a pound of coal today as did the first Edison plant of 1882. The power plant which is excellent security for a bond issue today may be decidedly inefficient in comparison with the plants of twenty years hence. This remark does not apply to hydro-electric plants, which nearly approach 100% theoretical efficiency in modern practice. Direct operating costs of a hydro-electric plant are very small, its earning power depending largely on the burden of interest on the capital required in its construction. The Niagara Falls Power Co., for instance, has a funded debt of about $75 per horse-power. No competition with so economical a source of power from steam-generating plants or another hydro-electric plant is conceivable. On the other hand, a hydro-electric plant constructed at excessive cost in the neighborhood of low-cost coal mines might prove a white elephant.

Future Developments

With continued expansion of public utility companies by merger the importance of the cost or operating efficiency of a single generating plant will be minimized. On the other hand, the position of outstanding blanket mortgage bonds will tend to improve. These mortgages will become closed in many instances and will become underlying mortgages on larger, stronger units than we have yet seen. This trend toward the creation of "superpower systems" by consolidation of existing com-

panies affords excellent opportunities to the present-day investor to acquire sound bonds at prices to yield from 5% to better than 5½%, bonds whose position will improve decidedly with the continued growth of the industry.

ARTICLE XIII

TRACTIONS—WHY THEY FELL FROM FAVOR

The street railway industry is in a sense the youngest of the public utility industries. Though horse cars had been operated for many years in New York and other cities it was as late as 1887 that electric traction was introduced, at Richmond, Va. In twenty-five years the investment in the industry had grown to $6,000,000,000. During the following decade the industry has passed through such trials and tribulations that many observers have reached the conclusion that it has become permanently unattractive to investors.

The indications of decay in the industry were striking enough. In the five years 1918–22 some 2320 miles of electric railway line were abandoned. This period saw many of the leading traction lines of the country in receivership, some important lines tied up by strikes for considerable periods, many involved in bitter political squabbles as the result of attempts to secure relief from intolerable conditions by raising fares, one driven to the desperate expedient of taking all its rolling stock into another state to enforce its demands for justice. During this five-year period traction lines in four of the ten largest cities of the country were in receivership. In the other six cities one company sold its lines to the city, operation of another was transferred from private management to public trustees

with arbitrary powers to adjust fares. In New York, whose traction companies alone have some $450,000,000 bonds outstanding, three of the four leading companies have either been in receivership or voluntarily reorganized during the last five years.

SURVIVAL OF THE FITTEST IN MASSACHUSETTS

The history of the tractions in Massachusetts is illuminating. That state is one of the most thickly populated in the union. Because of that fact and the abundance of capital in the hands of its citizens, development of traction lines was energetically prosecuted. In 1912 there were forty-nine companies operating street railways in Massachusetts with a total of 2549 miles of line. In that year still another company possessed a charter, but had not begun construction. In the following decade the number of operating companies was reduced to twenty-nine with a total of 2225 miles of line. The reduction in the number of companies was effected in part by consolidations, but ten companies abandoned operations entirely. From 1917 to date abandonment of traction lines in Massachusetts has amounted to 407 miles of line. The largest company in the state in point of mileage operated, formerly the Bay State Street Railway Co., now the Eastern Massachusetts Street Railway Co., has passed through two drastic reorganizations in the last six years and has been shorn of about 25% of its mileage. In 1912 the street railways of Massachusetts carried 701,798,000 revenue passengers. In 1921, estimating in part from incomplete data, the

roads carried 680,683,000 passengers. Surely the facts here briefly sketched as to the trials of the traction industry in the last few years are quite sufficient to explain the coolness of the investing public toward traction securities.

Fallacy of the Fixed Fare

To conclude from these facts that the traction industry is permanently on the down-grade might be a mistake. The history of the industry may suggest other reasons for its troubles than any failure to supply a real public necessity. The industry was founded on the basis of a five-cent fare which remained the standard price of a ride throughout the country for practically thirty years. It would be difficult to think of any other commodity or service whose price was so standardized regardless of fluctuations in the general price level. Having ridden for five cents for a generation the people almost universally resisted attempts to raise fares when soaring costs of power, supplies and labor made the five-cent fare unremunerative to the great majority of traction companies. Long delay in providing relief from impossible operating conditions forced receiverships in many instances.

Cleveland's Good Fortune

The experience of Cleveland demonstrates, however, that a traction system operating in a community whose citizens are accustomed to fluctuating fares can successfully survive a period of abnor-

mally high costs. After a long political battle the voters of Cleveland adopted a new traction ordinance in 1910. Under the terms of this ordinance the Cleveland Railway Co. is entitled to a rate of fare sufficient to cover operating costs, fixed charges and 6% on its capital stock. Any surplus above this amount is to be used either to improve service or reduce fares. The value of the property was fixed by arbitration at the time the franchise was adopted. The city may purchase the lines at any time at par for the bonds and floating debt and 110 for the stock. In thirteen years during which this franchise has been in effect the rate of fare has been changed fourteen times and has varied between three cents with one cent for a transfer, latter rebated when transfer was collected, to six cents with one cent for transfer, no rebate. Under this regime the people of Cleveland have had satisfactory service, the company has paid 6% dividends on its stock regularly. The $5,495,000 first mortgage 5% bonds of the company, secured by first lien on property valued by agreement with the city at a sum more than four times as great, currently sell on a 5.10% basis in striking contrast with the market prices for the bonds of other leading companies.

Street Railway Side Lines

The traction industry suffered from other evils beside a fixed rate of fare in its early days. Many street railways were built originally as side lines, either of electric light companies or real estate promotions. The electric light companies in their

early days experienced a large demand for current in the evening and a negligible demand during the day. It is only within the last fifteen years that sales of electricity for industrial power have first equaled and then greatly exceeded sales for lighting. Before the use of electricity by industry developed street railways offered the principal market for power during the day. With a street railway as a side line an electric light company could run its generators more nearly twenty-four hours a day at capacity, the goal of 100% operating efficiency. Traction systems thus acquired have been in recent years white elephants to many electric light and power companies.

Promoting Real Estate Speculation

Other traction companies were promoted originally to assist in the sale of large real estate developments, proximity to traction service greatly increasing the value of suburban land. Many traction companies were founded in almost rural communities, their promoters believing that traffic density and profits would increase by the mere growth of population. Development of the automobile was the knockout blow to such rural lines, many of which never had any excuse for existence. Of the ten companies which have abandoned operations in Massachusetts in the last six years practically all were of this nature. These ten companies averaged 13.3 miles in length and had on the average 11.5 passenger cars in operation in 1912. Regardless of the automobile such small units had little

chance of favorable operation. Their fate bears no relation to the possibilities offered investors by traction companies serving densely populated urban areas.

Real Progress of Traction Industry

Despite the difficulties of the last half-dozen years the traction industry as a whole has actually proved its soundness. The Bureau of the Census has recently published some figures covering the condition of the industry in 1922. Compared with the figures for 1917 encouraging progress is shown. More than 12,500,000,000 revenue passengers were carried by the tractions in 1922, an increase of 12% over the figures for 1917. Expressed in annual car rides per capita of our whole population traction service has increased from 100 rides per capita in 1912 to 109 rides in 1917 and 117 rides in 1922. Thus the "riding habit" has increased despite the abandonment of trackage. The people of the cities use their tractions more than ever; the people of smaller communities have in many cases lost theirs altogether.

In dollars and cents the industry has also made progress. In 1917 the average fare per passenger was 5.1 cent; the tractions were just breaking away from the shadow of the fixed fare. In 1922 the average fare per passenger was 7.3 cents; the tractions had definitely rid themselves of the fixed fare incubus. Gross income of the tractions was 47% greater in 1922 than in 1917; net income was 150% greater.

Increasing Efficiency

The difficulties of the traction companies have had one good result. They stimulated the managements to make every effort to increase efficiency of operation. The one-man car represents the principal advance in this direction. Of the 80,000 passenger cars operated by the street railways of the United States, however, only about 7500 were one-man cars as of January 1, 1923. It is thus evident that many traction companies have not as yet adopted the most obvious measure of economy and further improvement in the position of these companies should occur in the next few years. The rapid transit lines in cities of metropolitan size have also found it possible to cut costs by the installation of automatic turnstiles in subway and elevated stations, adoption of safety devices which permit running with fewer guards per train and similar means. This tendency to adopt labor-saving devices has been carried farthest in New York, which is the last important stronghold of the fixed fare.

The Motor Bus

Another constructive development in the traction field is the adoption of the motor bus as a feeder to street railway lines. The traction officials first denounced the busses, then sought restrictive legislation against them, and are now buying them. The experience of the last few years has pretty well demonstrated that the busses cannot alone give satisfactory service in large cities, that the trolley

lines cannot afford to give any service in small communities. Cost of operation of motor busses per seat furnished is invariably higher than cost of operation of an electric railway, except where traffic density is so light that interest on the heavy capital investment of a street railway swallows up its operating economies. A city of more than 50,000 population can usually support an electric railway comfortably. Such lines can advantageously use busses as feeders on routes of light traffic. Approximately 100 street railway companies are now operating over 1000 motor busses in this way and this movement is growing.

Market for Traction Bonds

The troubles of the tractions have been so well advertised in recent years that investors are now prone to shy at the very word. This is amusingly illustrated in the changes of name which have occurred on a number of occasions in the last year or two. A traction or traction, light and power company which has had occasion to sell an issue of bonds has frequently found it expedient to change its name to the "X. Y. Z. Power & Light Co." or the "G. H. Q. Edison Co." Because of the timidity of investors traction bonds have been selling on a very high yield basis. With the exception of the Cleveland Railway first 5s, 1931, already noted, and a handful of other underlying issues it would be difficult to find a traction bond selling to yield as little as 5¼%. Even Third Avenue first 5s, 1937, secured by closed first mortgage on all the property of the

company and protected by earning power never less than 3½ times interest on underlying bonds in the darkest days of 1921 sell currently on a 5.50% basis. Bonds of the Boston Elevated Railway Co. which are indirectly guaranteed by the state of Massachusetts until 1928 and protected by a wide margin of safety in assets and earnings sell to yield about 5.30%. Junior bonds of the Philadelphia Rapid Transit Co., which averaged earnings 2.46 times interest in the difficult period 1918–22, sell around a 6% basis. The list of such bonds could be extended almost indefinitely.

Opportunities for Speculative Investors

For those who desire to speculate in bonds few fields offer the attractions of the street railways. Every traction company has been given the most severe test imaginable by the developments of the last few years. The indispensability of traction service in large communities has been demonstrated. The wave of abandonment of small lines has probably not wholly spent its force, but the important systems have proved their right to existence. The public has very generally profiteered at the expense of the tractions by opposition to necessary revision of fares, but where the issue has been clearly defined the public has indicated its unmistakable preference for service at reasonable rates to no service at all. There remain communities where the issue has not yet been settled, but the speculative investor who will take some pains to look into local situations will find many bargains.

Good Yields With Safety

The average investor who seeks assured income will find in traction bonds an excellent opportunity to increase the yield of his whole fund with safety. He will confine his choice to the bonds of systems of substantial size, will prefer underlying mortgage bonds to junior mortgage bonds or debentures, will examine closely the record of the issuing company during the years just passed. For the small portion of his funds which a conservative investor will place in any one class of securities he may obtain in the traction group, owing to the blind prejudice against this group, a yield perhaps ½ of 1% larger than he can get from no better bonds of other types.

ARTICLE XIV

WHAT INDUSTRIAL BONDS ARE SOUND?

Corporation bonds are usually divided into three groups, railroad, public utility and industrial. For purposes of simplicity any bond which is not a railroad or public utility issue is usually considered an industrial bond. In this category are included bonds of companies engaged in basic manufacturing enterprises involving a heavy investment in fixed assets as well as bonds of companies with nothing more tangible on which to base earnings than the value of a patent. Sweeping generalizations regarding industrial bonds are therefore obviously absurd.

Real "Inside" Financing

A generation ago industrial bonds were practically unknown. The typical industrial enterprise was a family or partnership affair, seldom even incorporated. It turned its capital frequently and was able to finance expansion out of earnings. The history of the Ford Motor Co. offers an example of a company which has financed its growth out of earnings despite the rapidity of its growth from insignificant beginnings to a place among the half-dozen leading enterprises of the world. With the exception of the sale of $100,000,000 short-term notes at the time Mr. Ford bought out his partners in the business the public has never had the small-

est participation in the earnings of the Ford company. Few businesses can show any such record of profits as this, but until recent years, at least, it was generally the case that the normal industrial enterprise could finance itself. A prominent New England manufacturer recently made the statement that for fifty years his company had retained in the business 70% of its net profits. By such thrift have the industries of the United States been chiefly financed.

Amount of Industrial Bonds

And this is still the method by which American industries are chiefly financed. They are far from the position of being able to finance their capital requirements to the extent of 50% or more with bonds, as the railroads and public utilities have done. At the end of October, 1921, there were $9,680,000,000 railroad bonds listed on the New York Stock Exchange, against $6,719,000,000 railroad stocks. The showing of manufacturing companies was very different: $1,294,000,000 bonds, against $6,746,000,000 stocks with par value. A careful compilation of all the industrial bond issues of any importance outstanding gives a figure under $3,000,000,000 and the total of all bond issues of any size of domestic industrial corporations now outstanding probably does not exceed $5,000,000,000. This compares with the figure of $26,000,000,000 invested capital of manufacturing concerns in 1919. Owners rather than lenders have contributed the bulk of this capital.

Industrial Financing Recent Development

A large part of the industrial bonds outstanding have been sold in the last five years, total of industrial bonds sold in the period 1919–22 reaching $2,490,000,000. While of this amount a considerable volume has since been retired, yet it is safe to estimate that more than a third of the industrial bonds now outstanding are less than five years old. Of forty industrial bonds chosen at random out of a comprehensive list, nineteen issues are dated later than Jan. 1, 1919, and only two antedate 1900. These bonds have been outstanding seven years on the average. Of forty railroad bonds similarly chosen, twelve were outstanding before 1900 and the whole list has been outstanding nineteen years on the average.

Record of Industrial Bonds

The experience of the investing public with industrial bonds is thus, on the whole, rather limited. It would be a gigantic task to trace the fate of the industrial bond offerings even of a single year, but it seems wholly probable that it would reveal a less satisfactory record than would be the case with a similar investigation of rails or public utility bonds. To test the accuracy of this assumption the present status of twenty-five bond issues sold in 1919—selected at random by including every industrial bond issue greater than $1,000,000 in amount in alphabetical order from Aetna Explosives 6s to Escanaba Paper first 6s—was investigated.

Of twenty-five issues, nine have since been involved in receiverships or voluntary reorganizations, leaving sixteen with a clean record. Three of the nine bonds affected by adverse developments did not default in interest and one that did default will be paid in full. Of the five remaining issues, American Writing Paper first 6s were issued in exchange for old first mortgage bonds which were not paid at maturity. Atlantic Fruit debenture 7s were issued to finance a new enterprise, Cincinnati Abattoir 7s were the obligations of a long-established local packing company, Connecticut Zinc first 7s were issued by a mining company which had recently suspended dividends, El Dorado Refining 7s were the obligations of a small oil-refining company drawing its crude oil from a single field. With one possible exception no conservative investor could have overlooked the existence of a considerable degree of risk in these bonds.

Thus the showing of these twenty-five bonds need not frighten the investor who will exercise a little discrimination in his selections. Such an investor will naturally avoid the bonds of a small mining company, a small oil company, any new enterprise. He will select bonds of companies engaged in lines of industry whose earning power is inherently stable. He will prefer the bonds of companies with a large fixed capital investment to those of companies with little fixed capital in comparison to earning power.

Importance of Fixed Assets

Typical of the industrial enterprise which is stable enough to be a proper subject for bond financing is the steel producer. A steel plant involves very heavy investment in fixed capital, depends largely for its success on favorable location with respect to markets and raw materials. If well managed, as evidenced by a good record of earnings, such an enterprise may safely borrow a substantial part of the total investment. If it should get into difficulties, the value of its fixed assets will still be so great that junior security holders may safely be counted on to replenish working capital in a reorganization which will touch bondholders but lightly or not at all. On the other hand, a tobacco manufacturer has relatively a small investment in fixed assets. His factories may be located anywhere within wide limits, he may even occupy rented space in large part. His capital is largely invested in inventories. If such a business gets into difficulties, it will be because its liquid assets have largely been frozen or dissipated. In this case bondholders would find small assets as security for their loan, would probably find difficulty in reorganizing the company as a going concern even after making heavy sacrifices. The leaders in the two industries here mentioned are United States Steel and American Tobacco. Fixed assets of the former at the end of 1922 amounted to 318% of current assets; fixed assets of the latter on the same date were 10.8% of current assets.

Industries analogous to steel in the importance

of fixed assets are the paper, cement, fertilizer, sugar-refining, flour, heavy chemical industries. At the other end of the scale might be placed such industries as the manufacture of chewing gum, cameras, patent medicines, patent floor coverings, moving pictures, and specialty machinery. Location and character of fixed assets play but a minor rôle in the success of this type of company. Manufacturing and merchandising skill are all-important, but a quality of management alone is no security for a bond issue.

Temporary Financing

Neither managerial skill nor liquid assets afford a basis for bond financing though they form an eminently satisfactory basis for short-term loans such as a bank makes. In the case of a company without important fixed assets which has a good record, sale to the public of short-term notes may on occasion be sound financing. Thus the sale of $50,000,000 Sears, Roebuck serial one–three year notes in 1920 was fully justified. These notes were paid off from liquidation of excessive inventories and profits. It will be noted that market value of the equity represented by preferred and common stock of the company was never less than $60,000,000, affording noteholders a large margin of protection.

Compensation for Lack of Security

A company without adequate fixed assets as security must offer the purchaser of its long-term obligations something extra by way of compensation.

This may take the form merely of a return substantially higher than the going rate on securities covered with tangible assets, the privilege of converting into common stock at a price reasonably likely of attainment, or redemption above par. Of these substitutes for primary security the first is the least satisfactory. The five defaulting issues mentioned above all carried a yield well above the average for sound issues when offered to the public in 1919.

Appraising Fixed Assets

The shrewd investor will not look to the balance sheet to determine the value of the fixed assets of the industrial corporation whose bonds he is proposing to purchase. A balance sheet may represent less than the truth so far as cost of the property or replacement value goes and still exaggerate its value as security for a bond issue. The stocks of many New England cotton mills sell for less than the net working capital behind them. New England investors long familiar with these properties thus value the bricks and mortar and machinery of these concerns at zero. The question an investor should ask about a given piece of property is not how much it would cost to reproduce it but to what extent it would be worth reproducing.

This suggests a concrete test for the safety of an industrial bond issue. What is the market value of the equity behind the bonds? The bondholder expects to get nothing but his stated interest and stated principal. He may rightfully expect that the owners of the business shall have a greater

stake in the business than he. The less stable the character of the business the greater should the stake of the owners be. To determine the stake of the owners one needs to find the market value of a corporation's stocks. The market value at a given moment may be misleading; the market value at the lowest point of the last two years will give a conservative picture. Apply this test to United States Steel bonds! That corporation has $571,000,000 bonds, $360,000,000 preferred stock, $508,000,000 common stock. At their 1921 lows the combined value of the preferred and common stocks was $732,000,000, a wide margin for a corporation engaged in a stable business. In contrast examine the case of Wickwire-Spencer Steel, a company with $16,500,000 funded debt, $7,680,000 preferred stock, 435,000 shares of common. The common and preferred stocks of this corporation at the low prices of 1922 were together worth less than $8,000,000. It is not surprising that the first mortgage bonds of this company should sell on a 9% basis. The tobacco business has been mentioned for its relatively slight dependence upon fixed assets. Such an allusion obviously does not reflect adversely upon the investment standing of the $1,676,000 bonds of the American Tobacco Co., followed by stocks with a market value of $154,000,000 at the low prices of 1921. An equity of this size would easily support a funded debt twenty times as great.

The Test of Earning Power

Market value of an equity is fundamentally a reflection of the earning power behind it. Where market value is not easily ascertainable the record of earnings provides an excellent substitute. The more stable the character of the business the narrower the margin of safety in earnings may be and remain satisfactory. United States Steel and B. F. Goodrich both averaged earnings 4.90 times present bond interest in the last five years. The first mortgage bonds of the one sell on a 4.90% basis; those of the other on a 6.60% basis. This reflects the fundamental difference between the steel business and the tire business, the difference between having earned not less than 2.80 times interest in any one of the last five years and having reported a huge deficit in one of those years. An industrial company which has consistently earned between two and three times its interest for several years is a better credit risk than one which earned ten times interest last year and reported a deficit the year before.

Debentures or Mortgages

Many corporations amply supplied with mortgageable assets have such high credit rating that they do not need to mortgage their property. General Electric is a case in point. With an equity worth at rock bottom more than ten times its funded debt General Electric's debentures rank high among industrial bonds. There are few companies whose debentures are in this class and it is always to

be remembered that a bond not secured by lien on tangible property or its equivalent is technically in a weak position. More frequently a corporation issues debentures because its fixed assets are not sufficient to support the amount it wishes to borrow. In buying such a bond the cautious investor will either demand a margin of earning power greater than he would demand in the case of a mortgage bond of a company in the same industry or he will demand some compensation in the form of a conversion privilege, a heavy sinking fund, a generous redemption provision for the lack of tangible security. In buying a debenture of this type he will recognize that the transaction is not purely an investment purchase.

Few industrial companies can offer the stability of earning power that a soundly financed, well located railroad or public utility company enjoys. For this reason and because the relative merits of industrial bonds are less easily determined the conservative investor will include fewer industrial bonds among his holdings than either public utilities or rails. From such portion of his funds as he does place in industrial issues he may expect a greater yield than is obtainable from the balance of his list.

ARTICLE XV

THE VOGUE OF REAL ESTATE BONDS

MANY investors have discovered what appears to be a perfect type of security within the last two or three years. To the investor who is temperamentally inclined to play safe a type of bond which is (1) absolutely safe, (2) does not fluctuate in value, (3) yields from 6% to 7% on the investment makes a strong appeal. These three attributes ascribed to the real estate bond by the advertising matter of a growing host of bond houses specializing in this field, if they can be substantiated, entirely dwarf any claims to attractiveness that may be presented on behalf of any other type of bond. When to this consideration is added the fact that the gross profit to an underwriting house on a real estate bond issue is about twice as great as the gross profit on the average corporation bond issue, it is not surprising that there has been a great influx of firms into the real estate bond field.

The December, 1923 issue of a serious magazine whose subscribers are of the most substantial type of American citizens contained the advertisements of thirty different bond houses. Of these thirty advertisements, seventeen were those of houses specializing in real estate bonds. With the houses of the latter type going after business so aggressively the remarkable increase in the volume of real estate bonds sold from $50,000,000 in 1919 to about

$500,000,000 in 1923, about one-sixth the total volume of long-term corporate financing done last year, is explained.

Implied and Definite Guaranties

The most important of the features of real estate bonds which particularly attract the individual investor is the implied guaranty of absolute safety contained in such a phrase as "Thirty-Nine Years Without Loss to Any Investor." Of the seventeen real estate bond advertisements mentioned above, five, or nearly one-third, contained some such phrase. To the average investor such a phrase means not merely that the underwriting firm has a long and successful experience in its field but also that it practically guarantees the prompt payment of all bonds sold by it. Even the most conservative bond house selling railroad, public utility or industrial bonds will go no further in its approach to the investor than to state the facts on which it has based its purchase of a particular bond issue, its belief in the accuracy of the facts as stated, and its recommendation.

Not content with an implied guaranty of the bonds they sell a group of New York houses offers investors an unqualified guaranty. One house of this group advertises: "No loss to any investor in our thirty years of operation, and we guarantee there never shall be." This house "views with apprehension the large sales of excessive issues of real estate mortgage bonds, bearing high rates of interest."

There is thus a very definite quarrel between the

houses which offer real estate bonds with an implied guaranty and those which offer a definite guaranty. The latter houses devote considerable advertising space to unfavorable criticism of the business methods of their rivals; the former content themselves with proclaiming the merits of their own bonds—and enjoy much the larger business.

Real Estate Fundamental Security

Whether the claims made on behalf of real estate bonds are excessive or not there can be no question that income-producing real estate is fundamentally the best kind of security for a loan. Real estate is the one essential to every human activity. Eating, sleeping, working or playing, man occupies space. Except it be the public streets or parks he pays for the space he uses, directly or indirectly. Next to the bill of the tax-collector the bill of the landlord takes precedence over all other bills. The holder of a mortgage on income-producing real estate is thus fundamentally in a strong position.

Types of Mortgage Lenders

In small communities local money-lenders have usually supplied the local demand for mortgage money. Savings banks also invest heavily in mortgages, usually placing about 50% of their funds in this type of security. Insurance companies are also heavy investors in real estate mortgages on both city and farm property. Both kinds of institution enjoy as a rule a substantially higher return

on that portion of their funds invested in real estate mortgages than on that portion invested in stocks and bonds, as the real estate bond houses do not fail to point out to prospective customers. In addition to savings banks and insurance companies, there have operated in our leading cities for many years lending institutions which have sold the investing public split mortgages with their guaranty, either of the title to the mortgage property or the mortgage itself. Doing business on a larger scale these houses have evolved into the guaranteed real estate bond houses of today.

Wide and Narrow Equities

These old-line institutions have confined their loans as a matter of law or custom to not more than 60% of the value of the mortgaged property. Other things being equal, it is obvious that the smaller the ratio between the amount of the mortgage and the value of the mortgaged property, the safer is the loan. The borrower should always have enough of a stake in the property so that he will make every effort to meet his payments rather than relinquish the property to the holder of the mortgage. There will always be a demand, naturally, for loans to borrowers who wish to operate on a narrower equity than the 40% margin demanded by savings banks, insurance companies and other old-line lenders. To meet this need of small borrowers there was evolved the plan of the building and loan association, a type of institution which has flourished in many states. Such an institution

may lend up to 80% of the value of the mortgaged property. The borrower must be a shareholder in the association to the extent of at least one share for each $200 borrowed. He pledges these shares as well as his property for the loan. In addition to paying interest on the loan, he pays on his shares at the rate of $1 per month until $200 has been paid in on each share, including profits credited to him. Thus from the moment the loan is made the borrower is, in effect, paying off the principal by monthly instalments. Assuming average earning power for the association, the loan will be paid off in about twelve years. In much less than this time the loan has been reduced well below the lending limit of even the most conservative savings bank.

The Principle of Serial Payments

This principle of amortizing a loan by serial payments has in recent years been applied to loans of substantial size on office buildings, hotels, apartment houses and even industrial plants by real estate bond houses of the modern type. Such loans are usually made for 75% to 80% of the value of the property, this high percentage of loan to value accounting for the high rates of interest carried by these real estate bonds. The house underwriting the loan writes into the trust deed a provision by which monthly payments are made on account of interest and, after a breathing space of two or three years, principal of the loan. Serial payments over twelve or fifteen years either pay off the loan entirely or reduce it to a point where it can readily

be refinanced. Serial payments under this plan increase year by year as interest payments diminish so that the sum required monthly is constant throughout most of the life of the loan.

The financing of an office building being erected in Buffalo illustrates this method. In October, 1923, $1,250,000 6½% first mortgage bonds maturing serially 1926–38 were sold. During the first two years the borrower will pay monthly to the house making the loan, which acts as trustee for its own offerings, $6787 to cover interest. In October, 1926, the first serial payment is due and for the preceding twelve months $2880 will be added to the monthly payments to provide for this $34,500 instalment of principal. The same monthly instalment of $9667 will be payable for the following eleven years. As interest requirements diminish, the balance available for payments of principal increases, rising from $34,500 in 1926 to $69,000 in 1937. Final maturity of $648,000 should be refinanced without difficulty.

Necessity for Construction Loans

Obviously there is no magic in this formula. Unless the property can earn $9667 monthly by a good margin throughout the life of the loan the bonds will not be secure. In the case of any other type of corporation bond the investor can analyze the earning power behind his bond on the basis of past performance. The real estate bond is unique in this respect. Most real estate bond issues are construction loans and only an estimate of earning

power of a building to be erected can be given. The average corporation is constantly growing in need of new capital for expansion. An office building or apartment house or hotel is built but once, however, and its financing must be arranged before it is built. The investor buying a real estate bond must rely on the sound judgment and good faith of the underwriting house far more than he need rely on these qualities in any other type of investment house.

If the property does prove to have an earning power sufficient to cover interest and serial payments by a safe margin, an initial loan on such a property of 80% to be paid off serially may well be safer than one of 60% on real estate with a high valuation based upon its location, but with low earning power.

The Policy of Absorbing Losses

Because confidence on the part of their clients is the most valuable asset of a real estate bond house, the leading houses in the business have as a matter of policy in the past usually absorbed any losses on properties financed by them. The generous gross margin of profit on a real estate bond issue is thus partly insurance enabling the issuing house to make payments out of its own treasury in case the borrower defaults. Established houses are fully equipped to take over the property in such a case and operate it to the best advantage.

Reputable Houses and Others

Unfortunately many houses which have gone into the real estate bond business in the last few years have copied superficially the methods of the long-established houses without possessing their experience or integrity. Even the slogan "Thirty-nine Years Without Loss to Any Investor" has been unscrupulously imitated in some instances by firms with the most tenuous claims to any such record. Such firms have in certain cases made loans as high as 100% or even more of the value of the property. While the circular advertising bonds of this character may contain a table of serial maturities quite as impressive in appearance as the schedule for retiring bonds offered by a reputable house the investor buying such a bond is taking a considerable risk. As the "owner" of such a property has no real stake in it, he will abandon it to the bondholders whenever income falls below fixed charges. Superficially there is no way in which the individual investor can distinguish between the real estate bond house which has a real claim to his confidence and the house of limited experience and principle. Real estate bonds should be purchased only after searching investigation into the record of the offering house. It is worth noting that of the great number of real estate bond houses in business only three are members of the Investment Bankers Association, an organization devoted to the promotion of sound investment-banking methods which includes almost all the reputable houses in every other branch of the bond business.

Scale of Yields Obtainable

The guaranteed bond houses and mortgage companies offer lower rates to investors. Such guaranteed loans on New York real estate usually bear 5½%, on real estate in the South and West, 6%. The established companies in this field loan as a rule not over 60% of the appraised value of the mortgaged property. Obviously a guaranty should be only a secondary reserve, a loan should be good on its own merits. The greater the amount of guaranteed loans outstanding in relation to the capital of the guarantor, the less valuable is the guaranty. Perhaps twenty times its own capital would be the limit of conservatism in making loans.

Bonds, split mortgages or mortgage certificates offered by an institution under the supervision of a state banking or insurance department and limiting its loans to 60% of appraised value and in the aggregate to fifteen or twenty times its capital offer the investor sound security with a substantial yield. Unguaranteed bonds offered by large real estate bond houses with long experience in the field afford a still higher yield, but must be selected with more discrimination. In particular, industrial property usually depends more on the business skill of its owner than on its location for its earning power, hence is less desirable security than a centrally located office, apartment or hotel building.

Lack of Marketability

The most serious objection to real estate bonds in general is their lack of marketability. While

some houses not specialists in the business are attempting to create a broader market for issues which they have sold it is almost universally the case that a real estate bond has a "one house" market. As a matter of policy, established houses will usually repurchase bonds from customers at a trifling discount from the offering price. There is no guaranty that they will do so, and the leading house in the business with commendable frankness informs its customers that it will not purchase bonds in unlimited quantities in an unfavorable market.

In the case of bonds issued in excessive amounts against speculative building projects by houses of mushroom growth the almost complete absence of marketability is serious, since the inevitable defaults among such issues will catch their holders entirely without warning.

A Day of Reckoning Ahead

A day of reckoning in mortgage securities is undoubtedly ahead. Whether building costs, rentals, realty values decline from present levels or not—a question the subject of acrimonious debate on the part of those in the business—bond issues 100% or more of the value of the mortgaged property are bound to show investors losses.

If a slump in real estate rentals and values should come, the patrons of the old-line guaranteed bond institutions would be least likely to suffer, while only a drop extremely drastic both in extent and rapidity would really endanger bonds offered by the long-

established and more conservative houses operating on the monthly payment amortization plan. Nevertheless, in view of the lack of marketability of real estate bonds and the slight element of doubt as to maintenance of the present level of realty values, it is a question whether an investor should place more than a small portion of his funds, at the outside, in this type of bonds.

ARTICLE XVI

CAN SAFETY AND A CHANCE FOR PROFIT BE FOUND TOGETHER?

ONE of the copybook maxims assures us that no one can have his cake and eat it too. This proverb might well be supposed to apply to the bond-buyer whose temperament craves the chance for speculative profit. In its essence investment consists in renting funds for an assured income and an assured return of principal. Elimination, so far as possible, of the risk of loss or impairment of principal would seem obviously to eliminate at the same time opportunity for profit or increase of principal. At the same time the investor will do well to remember that he can never eliminate the risk of loss entirely. Empires have fallen, even those which seemed most solidly established. Nothing can be taken for granted indefinitely. No bond is 100% safe.

STATING THE RISK MATHEMATICALLY

Even the most conservative investor is then assuming some risk in making his commitments. Let him at least see to it that he is compensated for this risk by some chance of gain. If there is, mathematically stated, one chance in forty that a given bond will become worthless, the purchaser should be sure that there is at least an even chance of its advancing in value five points. The investor with

this idea in mind would not buy at par a bond involving this degree of risk which was callable at 102. The possibility that the bond might advance two points would not offset even the very remote possibility that it might drop 100 points.

If the chance for profit in one bond may be insufficient to offset the risk inherent in that bond, it follows logically that the chance for profit in another bond may more than offset the risk involved. Of the two bonds, the sensible investor will prefer the latter, while retaining his sense of proportion as to his object in buying bonds. Prospective profits will be a minor factor in the choice of his bonds, but if he can by intelligent selection assure himself an opportunity for profit more than offsetting the risk in his bonds, he will certainly select his bonds from this viewpoint.

Three Possibilities for Profit

There are three ways in which an investor can make profits in bonds, through a fall in interest rates which will increase the value of all sound bonds, through redemption of an issue, in whole or in part, before maturity, through exercising a right conferred by the indenture of the bond to exchange it for a junior security on a favorable market.

Money Rates and Gilt-Edged Investments

At the opening of the present century money rates were at a very low point and bonds correspondingly high. In 1901 the bonds of twenty lead-

ing cities sold at the peak on an average basis of 3.10%. Then occurred an upward movement in interest rates which lasted, with minor interruptions, for twenty years. At the culmination of this movement in 1921 the bonds of ten leading cities sold on an average basis of 5.30%. Assume that an investor had received a bequest of $123,000 in 1901 and had decided to invest it all in New York City bonds as the safest obtainable medium. For this sum he might have bought $100,000 par value fifty-year 4s. During the ensuing twenty years he would have received the stated interest on his bonds or $2000 every six months with punctilious regularity, but at the end of that time the market value of his bonds would have been only $83,000. A gradual decline in market value he must have contemplated in purchasing bonds at a high premium, but so drastic a decline would naturally prove staggering.

Not only did our hypothetical investor suffer a severe impairment in the market value of his invested capital but the purchasing power of his income has steadily diminished. An income of $4000 a year was affluence in 1901, little more than comfort in 1921. Sufficient to support a fine horse and carriage in 1901, it would maintain only a modest car in 1921. Suppose that this investor had pursued a different policy and purchased bonds of equal quality maturing in a year or two, consistently reinvesting in the same sort of securities throughout this twenty-year period. In 1921 his capital would have been intact, his income about $6760 a year at the 5½% rate then obtainable on treasury notes.

Extent of the Long Swings

This hypothetical case illustrates the breadth of the long swings in bond prices which occur over twenty to thirty-year periods. An investor may assume one of three attitudes toward this cyclical movement of bond prices. He may ignore it, as most investors do, he may try to counteract its unfavorable effect on his pocketbook by scattering the maturities of his bonds, he may try to take advantage of it by buying long-term bonds when prices are low, short-term bonds when prices are high. The first and conventional policy is merely gambling on the trend of interest rates. Our hypothetical investor might by equal chance have bought \$116,000 twenty-year 3½s with his legacy and in this case he would have had that sum of money to invest in long-term 5½s at the most advantageous phase of the bond market in a generation. However, either the second or the third attitude mentioned is the only really consistent one for an investor. Since the last is safe only for those unusually skilled in charting the ebb and flow of the economic tides the policy of diversifying bond holdings in respect to maturity is the logical one for the average investor to follow.

Premium or Discount Bonds

In considering the effect of the movement of the level of money rates on the price of any given bond it is to be remembered that the price of any bond tends to move toward par as its maturity approaches. This tendency accelerates the rise of

bonds selling at a discount and retards the rise of bonds selling at a premium in case of a rising bond market, accelerates the decline of premium bonds and retards the decline of discount bonds in case of a falling bond market. For example, Great Northern 7s, 1936, currently sell around 110½, about a 5.70% basis. If interest rates should fall ½% in the next five years, this bond would actually decline in price. On the contrary, an equally secure 5% bond with the same maturity date selling on the same yield basis would rise four points in five years in response to the same stimulus. From any standpoint of comparison but that of immediate income the bond selling at a discount is to be preferred to the bond selling at a premium.

Value of the Sinking Fund

Beside the chance of profit based on the fall of interest rates the bond buyer has another chance in the blind operation of sinking funds of many bond issues. The sinking fund is an increasingly popular device to retire bond issues out of current income. As a practical matter, a $30,000,000 corporation can seldom pay off a $10,000,000 bond issue at maturity except by selling another issue of bonds or of stock to raise the cash. This necessity may prove very embarrassing. On the other hand, an industrial corporation of this size should have little difficulty in putting aside $400,000 a year toward the retirement of its bonds. If the bonds are fifteen-year bonds and the company pays par on the average for its sinking fund purchases, there will only be

$4,400,000 to pay at maturity. If the bonds purchased for the sinking fund were kept alive and interest on them added to the fund, the issue would be retired still more rapidly. Thus of a fifteen-year issue of 6s only 16% of the original amount would be outstanding at maturity in case the sinking fund were cumulative.

A sinking fund not only helps a company pay its debts, it is useful in enhancing the marketability of a bond issue. If there is certain to be a large buying order in the market once or twice a year, the bonds will ordinarily sell at a somewhat higher level than if this market support were absent. In the case of obscure and relatively unmarketable issues the investor's best chance of selling his bonds is often the sinking fund. A little pains to know when and how the sinking fund operates may be well repaid.

Bonds Called by Lot

Usually the indenture of a bond issue with a sinking fund provides that bonds may be purchased in the open market at or below the call price or called at that price, if not obtainable in the market. Occasionally call by lot is mandatory. Thus United States Steel sinking fund 5s, 1963, are callable annually for the sinking fund at 110. This sinking fund is cumulative so that although the Steel Corporation supplies the trustee annually only $1,010,000 the amount of bonds retired each year now exceeds $2,300,000. U. S. Steel 5s, 1963, at 102½ yield only 4.90% to maturity, but there is a chance that a given bond may be called in a

year or two at a 7½-point advance over cost, increasing the yield substantially. Among other well known bonds of this type are Kingdom of Belgium 7½s, 1945, redeemable in equal annual instalments at 115, and Goodyear Tire & Rubber first mortgage 8s, 1941, redeemable in equal semi-annual instalments at 120. Of course a bond which sells at less than the price which the borrower has contracted to pay its holder at maturity is really selling at a discount, even though the price may be more than 100.

Convertible Bonds

The leading instance of a chance for profit in bonds is afforded by the convertible type of bond. The indenture of a convertible bond contains a provision whereby the bondholder may exchange it for another security of the same company, usually common stock. Such a privilege may be limited in time, the conversion price may change from time to time or the conversion price may change to successively less favorable levels as bonds are actually converted. Bonds of this character are usually issued by companies which wish to finance permanently, but are unable to sell stock in an unfavorable market or by companies engaged in enterprises of so hazardous a nature that bonds are unmarketable unless they afford the purchaser a substantial opportunity for profit commensurate with the risk involved. The convertible bond is a favorite instrument for financing mines and is, with a few exceptions, perhaps the only kind of mining bond that an investor should consider buying.

Profits in Mining Bonds

In the case of mining bonds very large profits have sometimes been made. The following list shows the history of a number of leading issues of mining bonds which have all been converted or redeemed, the issue, original price, price at which convertible into common stock, record high for common stock prior to expiration of conversion privilege, equivalent value of each $1000 bond at the record high:

Bond:	*Issue price*	*Conv. into com. stock at*	*High for common*	*Equivalent value $1000 bond*
Butte & Superior cv 6s	100	15	79⅞	$5329
Chile Copper cv 7s	100	25	30½	1220
Chino Copper cv 6s	100	25	50¼	2010
Nevada Consolidated cv 6s	100	10	24⅛	2412
Ray Cons 1st cv 6s	100	10	24⅛	2412
Ray Cons 2nd cv 6s	100	20	36¾	1837
Utah Copper 1st cv 6s	100	20	67¼	3362

Naturally there is considerable degree of risk inherent in any mining enterprise for which such profits as are here indicated are merely proper compensation. Alaska Gold was developed under the same auspices as many of the mines in the table above. Ten years ago the outlook for its future was most promising. Today its 6% convertible debentures sell around $60 per $1000 bond.

Rail and Public Utility Convertibles

Essentially a convertible bond is an instrument for financing temporarily a company which wishes to finance principally or entirely by stock. Underlying bonds which are to be considered practically as representing permanent capital are almost never

convertible. Instead the convertible bond is usually either the obligation of a company not of the highest credit rating or the debenture obligation of a strong corporation. Many strong railroads and public utility companies have found the convertible bond a useful means of selling additional stock indirectly when market conditions would not permit the direct sale of stock. Thus the Atchison, Chesapeake & Ohio, Delaware & Hudson, New York Central, Norfolk & Western, Southern Pacific and Union Pacific among our strongest railroads have used the convertible bond as an instrument of finance. Of $121,000,000 Atchison convertibles not yet matured nearly $98,000,000 have been converted into stock; of $75,000,000 Norfolk & Western convertibles unmatured nearly $62,000,000 have been converted; of $136,500,000 Southern Pacific convertibles unmatured nearly $79,500,000 have been converted. Chesapeake & Ohio, Delaware & Hudson and New York Central still have large convertible issues outstanding of which there is reasonable prospect of conversion within a few years. Baltimore & Ohio and St. Paul have been relatively unsuccessful in financing with convertibles. In the public utility field American Telephone and Consolidated Gas of New York are outstanding examples of strong companies which have successfully financed with convertible bonds.

Profits and Risks in Convertibles

Large profits have not been obtainable with the convertible bonds of these strong corporations. Nat-

urally the largest profits have been found with the greatest risks. Mining companies, oil companies, raw sugar producers in the development stage, less stable industrials have been the companies to offer the largest inducements to buy their convertible bonds. Punta Alegre Sugar Co. was originally financed with convertible bonds. The 1919 high for the stock was equivalent to about $2000 per $1000 bond for each of these issues. Practically all these two issues were converted at that time. A more recent instance of a sharp advance in the industrial group was the action of Freeport Texas 7s in 1922. The bonds were offered to stockholders in April at par. They were convertible into 58 shares of stock per $1000 bond until August 1, the number of shares into which each $1000 bond was convertible dropping sharply each three months. As a result of a temporary spurt in the stock, the bonds quickly rose to a high of 158 and within a few weeks the whole issue was converted into stock.

Devices to "Force" Conversion

Except for the peculiar provision by which the conversion price advanced each three months it is doubtful whether the Freeport Texas 7s would have been converted at all. It is the history of convertible bonds that holders do not convert without the strongest inducements. The holders of $121,000,000 Atchison convertible 4s might have increased their income 50% by converting into stock before the privilege expired, but in spite of the fact that the 6% Atchison dividend was about as safe as any

common dividend could be the holders of nearly \$14,000,000 of these bonds failed to take advantage of their opportunity. There are now outstanding \$5,820,700 Punta Alegre Sugar convertible 7s, each \$1000 bond convertible into eighteen shares of stock. Despite the fact that the stock is on a \$5 dividend basis, thus giving bondholders an opportunity to increase income from \$70 per \$1000 invested to \$90, less than \$500,000 bonds have been converted.

To force conversion of its bonds a corporation must usually call the issue unless it contains some such ingenious provision as that of the Freeport Texas 7s. In issuing \$50,000,000 convertible debentures a year ago the Anaconda Copper Co. devised another scheme to facilitate conversion. Of this issue the first \$10,000,000 bonds presented are convertible into stock at \$53 a share, the next \$10,000,000 at \$56, and so on. This same device has since been adopted by Standard Gas & Electric Co.

Occasionally a bond issue is convertible into another bond issue. This was the case with the \$230,000,000 Great Northern-Northern Pacific joint 6½s, 1936, issued in 1921. This issue was convertible into Great Northern 7s, 1936, or Northern Pacific 6s, 2047, half into each. Conversion of the issue was forced by redemption in the summer of 1922 at 103½. Both the Consolidated Gas, Electric Light & Power Co. of Baltimore and Shawinigan Water & Power Co. have also financed with bonds convertible into longer-term bonds.

Conversion into Preferred Stock

A good many bond issues are convertible into preferred stock. Such a privilege is usually of but slight value, since the preferred stock neither possesses the security of the bond issue nor shares with the common stock in unusual prosperity of the company. Occasionally a railroad or public utility preferred stock issue may be sufficiently attractive to make conversion into preferred stock worthwhile, as in the case of the $28,600,000 Western Electric 7s, 1925, called in 1922 at 102, but convertible into preferred stock then selling at 109. Ordinarily the privilege of converting a bond into preferred stock merely affords the bond salesman a talking point, without conferring any real benefit upon the purchaser.

Special Privileges

Beside the right to convert into stock a bond may carry some other privilege of value. For example, Marland Oil 7½s and 8s were issued with warrants entitling the holder of each $1000 bond to purchase 25 shares of the company's stock at $40 a share. The stock sold as high as 59⅝ in the spring of 1923 and the bonds as high as 159 and 161¾ respectively. United States Hoffman Machinery 8s, 1932, are redeemable at a constantly increasing premium reaching 110 at maturity plus three shares of common stock per $1000 bond. In view of this provision it is to the interest of the company to redeem the bonds at the earliest possible moment.

General Considerations

In general, bonds of the highest grade do not carry special privileges likely to be of considerable value to their holders, but in the railroad and public utility field good bonds may occasionally be found which offer fair prospects of profit. In the case of industries essentially less stable there are more frequently to be obtained bonds which combine a fair degree of security with attractive opportunities for profit through conversion or the exercise of some similar privilege. Beside this opportunity for profit in bonds the investor may attempt to take advantage of the long-swing movements of interest rates or at least eliminate the likelihood of loss by diversifying his holdings in respect to maturity. Finally the investor will do well to consider the redemption provisions of bonds before purchasing them. Other things being equal, the bond which sells the furthest below its final redemption value will be most attractive to the average investor.

ARTICLE XVII

ARE PREFERRED STOCKS "JUST AS GOOD" AS BONDS?

THE bond investor is well aware that as a holder of bonds of a first mortgage issue he may be a preferred creditor of a corporation which has first mortgage bonds, second mortgage bonds and debentures outstanding. Many corporations, particularly railroads, have still more complex funded debt structures. The Erie is a classic example, with nine mortgage liens on the older portion of its main line. Not only may a corporation's funded debt structure be complex but in modern practice the ownership of the business is frequently divided between two or more classes of stockholders. Usually the division is simply between common and preferred stock, but occasionally there may be more than one class of preferred stock. The Market Street Railway Co. offers a notable example, with prior preference stock, preferred stock and second preferred stock.

POINTS OF PREFERENCE

Preferred stock derives its name from the preference accorded it by the issuing corporation in payment of dividends. The directors of the corporation are obliged to declare dividends on the preferred stock at the specified rate before they can pay anything on the common. In exchange for this

prior claim on earnings the holder of preferred stock usually waives any right to further share in earnings and often also to any participation in the management of the corporation. Usually the preferred shareholder is protected by more or less elaborate safeguards in the enjoyment of his preferred position. A cumulative provision is one of the commonest of these safeguards, though it is comparatively rare in the railroad field. In case the corporation is compelled by adverse business conditions to suspend preferred dividends it must make good the deficiency in future before paying anything on the common. The cumulative feature is something of a modern development in corporation finance so that the older issues of railroad preferred stocks such as those of the Baltimore & Ohio, Atchison, Union Pacific are usually non-cumulative; those of roads reorganized within the last decade like the Missouri Pacific, Pere Marquette, Rock Island are usually cumulative. Industrial and public utility preferred stocks are almost always cumulative.

Among the safeguards ordinarily thrown about industrial preferred stock issues are provisions giving preferred shareholders equal or sole voting power in case of long-continued suspension of dividends, prohibiting creation of funded debt or issuance of additional preferred stock without the consent of a large majority in interest of preferred shareholders, prohibiting payment of common dividends which would reduce working capital below a fixed percentage of preferred stock.

Why Corporations Issue Preferred Stock

The advantage to a corporation of financing with preferred stock is the possibility of securing additional capital for the business without disturbing the control of the real owners of the business. A business with $5,000,000 capital stock is theoretically controlled by anybody who owns $2,500,100 of the stock. If this company now sells $5,000,000 preferred stock, the capital in the business has been doubled without disturbing the control of the largest shareholder or requiring him to invest any more of his own money. If the business earns on the average 8% on its capital over a period of years and can sell 6% preferred stock, the common shareholders also gain in income by this form of financing just as they gain in income through selling bonds bearing a rate of interest less than the rate of return the company can ordinarily earn on new capital. From the issuing company's standpoint preferred stock has the vital advantage over bonds that suspension of preferred dividend payments involves no serious penalties, while default on interest payments leads to receivership.

Reasons for Buying Preferred Stock

The investor's motive in buying preferred stock rather than bonds is to obtain a higher yield while avoiding in part the risks which are inherent in common stocks. The difference in yield as between preferred stocks and bonds is even more in favor of the former than appears on the surface, owing to

the factor of taxation. Preferred stocks are exempt from the normal federal income tax and in certain cases from local taxation, while bonds bear a heavy burden. The factor of taxes explains the apparent anomaly of the market for Hood Rubber preferred stock, which sells a trifle above the company's 7% debentures owing to the fact that it is exempt from the normal federal tax and the Massachusetts income tax to Massachusetts holders, while the debentures are subject to both.

The Matter of Taxation

Many investors, conservative according to their lights, favor preferred stock over bonds because of the nuisance involved in clipping coupons and filling out ownership certificates, compared to the ease of cashing dividend checks. Few investors stop to consider the disadvantages from a taxation standpoint of having their ownership a matter of record. Ownership of shares in a large enterprise may involve the estate of the owner in multiple inheritance taxation. One estate recently settled contained as its smallest item a few shares of stock in a Maine corporation. Before these shares could be transferred by the executor of the estate the assent of the Maine tax commissioner was necessary and to gain his assent an inventory of the estate was necessarily filed with him. The estate contained some bonds of Maine corporations which as a practical matter would not have been taxed but for the possession of the stock. As a result of the possession of this stock, the estate was called

upon to pay a tax in Maine, in addition to the taxes paid the federal government and the state in which the deceased was domiciled, which swallowed up a large part of the value of the shares.

How far is the conservative investor justified in including preferred stocks among his holdings? Are good preferred stocks "just as good" as bonds? What are the tests of quality in preferred stock issues?

The Cumulative Provision

It is possible to find plenty of examples to show how flimsy are the paper safeguards set up for the protection of preferred shareholders. A cumulative provision offers not the slightest assurance of sustained income in case the earning power of the corporation proves insufficient. The same statement is true of the promise to pay interest on a bond issue, but the bondholder has the assurance that if the debtor corporation cannot earn enough to pay interest its career will terminate swiftly, either by liquidation or reorganization. A corporation which cannot pay preferred dividends may exist in a state of suspended animation for years. The Rutland Railroad has paid preferred dividends only irregularly since 1868 and accumulations on it now amount to 283¾%; American Hide & Leather has a somewhat similar record over a twenty-five-year career and arrears of preferred dividends amount to 133¾%. The cumulative provision has proven of only trivial value to the holders of these stocks.

Management and the Small Investor

The assurance of control of the business in event of suspension of preferred dividends is of little more value. Preferred stock is bought for income by small investors who take no interest in the management so long as they get their dividends. They have no idea what to do with voting power when they get it. Anyone who has attended a stockholders' meeting of a corporation which has suspended dividends is familiar with the helplessness which individual shareholders exhibit on such occasions. Recently the preferred shareholders of B. B. & R. Knight, Inc., a subsidiary of Consolidated Textile, obtained theoretical control of the company. They found that new interests had already entered the management, including some of the best textile men in the country, and were already doing their utmost to put the property back on the map as a money-maker. It was inconceivable that any change the scattered and unorganized preferred shareholders could make in the management would better the situation. The voting power provision thus proved in this case, as in many others, of not the slightest practical value.

Restrictions Against Creating Mortgage

A restriction on the power of a company to mortgage its property without the consent of preferred shareholders fares no better when it comes to the test. In the summer of 1920 the Goodyear Tire & Rubber Co. sold an additional block of its 7% pre-

ferred stock, described in the offering circular of the bankers as carrying the following provision: "Except with the consent of the holders of 75% of the preferred stock, no mortgage or lien shall be placed on the real estate, plant or equipment of the company. No bonds, notes, debentures or other similar evidences of indebtedness maturing later than three years shall be created or guaranteed, and no stock ranking ahead of or equally with this issue shall be issued." A year later there were $30,000,000 first mortgage bonds, $27,500,000 debentures and $29,295,000 prior preference stock outstanding. Holders of the preferred stock are still waiting patiently for dividends.

Public Utility Preferred Stock

As the quality of a preferred stock issue depends upon the size and stability of the earning power of the issuing company, it follows that as a class the preferred stocks of electric light and power companies and other public utilities outside the traction group make the best showing. A compilation referred to in a previous article shows that of the eighty-one largest companies every one with preferred shares outstanding is paying preferred dividends regularly. Fifty-one of these companies have paid regular preferred dividends since such stocks were issued. The preferred stock of a public utility company with a good record of earnings and growth, with funded debt ahead of and common stock behind it in reasonable proportion may be considered a fair investment.

Railroad preferred stocks do not make so good a showing. Of the thirty leading railroads with preferred stock outstanding eighteen have paid preferred dividends only irregularly or not at all during the past few years. A number of these stocks have been issued in course of recent reorganizations and could hardly be expected to be on a dividend basis so soon. On the whole, preferred stocks of strong railroads afford a fair vehicle of investment.

Record of Industrial Preferred Issues

The Harvard Business Review recently published a scholarly series of articles on investments, by Professor Arthur S. Dewing of Harvard, which gave some results of an investigation of industrial preferred stocks carried out at Harvard. Every issue of industrial preferred stock between $100,000 and $25,000,000 in amount offered to the public between June 1, 1915, and June 1, 1920, was investigated as to its market value on Jan. 1, 1923. A total of 607 issues was covered by the investigation. No quotation of value was ascertainable in the case of seventy. Another 114 issues were quoted at less than 25% of par, 169 between 26 and 90, while only 200 were worth more than 91 and 54 issues had been retired. Average value of the 537 issues for which any value could be found was 70½, compared with an average offering price of 99½. The total volume of these 537 issues was $1,097,361,000, so that the shrinkage of 29% in an average period of four and a half years amounted to $318,000,000. This truly dismal showing is sufficient commentary

on the advisability of purchasing industrial preferred stocks other than thoroughly seasoned issues.

Risks Without Profits

It is quite apparent that a preferred stock issue can never afford the investment quality of a bond issue of the same corporation. The lack of mortgage security, and of the necessity of dividend payment under pain of receivership is a vital defect. This is not to say that a good preferred stock is not much better than a poor bond. The preferred shareholder should always remember that he shares in part the risks of the enterprise without sharing in the prosperity of the enterprise. If the business is successful, he will receive his stated dividends, the stock will sell around par or at a moderate premium; if the business is unsuccessful, his loss is limited only by the sum he has invested.

There are certain issues of preferred stock, just as there are bond issues, which carry special privileges whereby the holder may share in the prosperity of the issuing company while possessing a certain measure of protection against adversity. The participating feature is such a privilege. Chicago & North Western affords a conspicuous example. The preferred stock is entitled to 7% before the common gets anything. After both have received 7% the preferred has a prior claim on an additional 3%; after both have received 10% they share alike. Under this provision Chicago & North Western preferred shareholders have received as much as 12% on their stock in a year and throughout the period

1902–19 received 8%. A preferred stock issue, like a bond issue, may also carry a conversion privilege. Both Chesapeake & Ohio and Illinois Central have recently issued preferred stock convertible into common share for share.

A limited number of preferred stock issues of this character may be found which are attractive to the investor who desires a speculative flavor with a reasonable degree of security. The general run of preferred stock issues, however, must be regarded as distinctly inferior to bonds from the standpoint of security while lacking the opportunity for enhancement of value to be found in a judicious selection of common stocks.

ARTICLE XVIII

HOW AN INVESTOR SHOULD DISTRIBUTE HIS FUNDS

An ancient proverb emphasizes the unwisdom of putting all one's eggs in one basket. On the other hand, Andrew Carnegie is credited with the advice to put all one's eggs in one basket—and watch that basket. These two pieces of advice are not so contradictory as might at first appear. They are addressed to different audiences. The Carnegie advice is directed to the men who desire to win a fortune in business, to aspiring Rockefellers, Schwabs and Fords, men who would for years put all their energies, mental, physical and financial into building a great business enterprise. Singleness of purpose is vital to success in such an endeavor. No man can hope to win success if he is trying to be simultaneously a cotton mill magnate in Georgia, an oil refiner in Oklahoma and a wheat farmer in Saskatchewan.

The man who is trying to make a fortune is not an investor, though he will later become one if success crowns his efforts. The investor is primarily interested in the conservation of wealth, whether it be the savings of one year or many, with a moderate rate of return on his funds. To him the advice not to put all his eggs in one basket applies with full force.

Diversification No Substitute for Judgment

Diversification of investments affords no substitute for the use of intelligence in selecting securities. The investor who buys ten poor securities is no better off than if he had put all his funds in one. Diversification merely protects the investor in good securities against the consequences of unforeseen misfortunes. At one time the stock of the New York, New Haven & Hartford was considered a gilt-edged investment. New England investors who had put the bulk of their fortunes in this security at $200 a share and higher prices were impoverished or ruined, while those who placed only a moderate proportion of their funds in this one issue and included among their other holdings some solid industrial issues as well as good bonds suffered little or not at all as a result of the disasters which befell the New Haven.

Handling Large Funds

The necessity for diversification being granted, how should an investor distribute his funds among the different classes of securities? What percentage of his total fund should he place in rails? In public utilities? In industrials? What percentage, if any, in stocks? Perhaps the simplest way to answer these questions is to investigate the handling of large investment funds which are invested at the discretion of those charged with their administration subject to a minimum of governmental supervision. Savings banks and life insurance companies

are so rigidly supervised that their holdings do not furnish an adequate criterion of the proper investment of the funds of an individual. The investment of the funds of a large quasi-philanthropic institution, a large trust company in a state whose rules of law do not too rigidly circumscribe the investment of trust funds more nearly approximate the requirements of the case.

Investing Harvard's Funds

An example of the first type is furnished by Harvard University, the oldest institution of learning in the United States, whose general funds constitute an endowment of just over $45,000,000. The investment of these funds is subject solely to the discretion of the board of overseers. Among its alumni Harvard numbers many men prominent in the investment banking field. Its treasurer is himself a director in some fifty important corporations. It may be assumed, then, that these funds are invested in accordance with the ideas as to prudent investment of experts in the field.

On June 30, 1922, the latest date for which details are available, Harvard's general fund was invested in 268 issues of bonds and stocks, 33 items of mortgages and mill notes, 23 parcels of income-producing real estate. The largest single item of real estate stood on the books at $1,013,661, or something more than 2% of the total fund in a single investment. The largest single item except Liberty bonds in the list of securities is $564,845. This, incidentally, represents an entire issue of preferred

stock acquired together with cash as consideration for a parcel of real estate. The 7% preferred stock so acquired was carried on June 30, 1922, at less than $58 a share. These figures indicate how far the principle of eliminating risk by diversification has been carried.

Debts and Equities

Analyzing the distribution of funds from another standpoint it is found that $30,635,000 or about 67% of the fund is invested in debts—bonds, mortgages, corporation notes—while $14,452,000 is invested in equities—stocks, real estate trust stocks, parcels of real estate. In purchasing 208 different bond issues it is inevitable that even the shrewdest advisers would make an occasional mistake. The quality of the judgment used is indicated by the fact that on June 30, 1922, Harvard held only five bonds in its general funds which were in default. Book value of Harvard's holdings of these five issues was less than $190,000.

In its holdings of stocks and real estate Harvard has the opportunity through careful selection to offset the occasional rare losses which it must take on its bonds. As of Jan. 1, 1924, the market value of three items on Harvard's list of stocks, American Telephone, General Electric, United Fruit, exceeded their book value by $1,026,000. Paper profits on these items and a few others exceeded by a good margin paper losses on St. Paul, Great Northern, Northern Pacific and Manhattan Railway. Increment in value of carefully selected common stocks

and centrally located real estate in a large city will over a period of years more than offset the occasional trivial losses in bonds while the income from these investments will be fully as satisfactory as that obtainable from bonds.

Governments, Rails, Utilities, Industrials

Examining Harvard's holdings of securities more closely it will be found that the bonds are divided as follows:

$1,759,000	governments and foreign municipals
9,678,000	rails
1,798,000	street railways
8,095,000	other public utilities
5,154,000	industrials.

The government bonds included in the list are mostly Liberty bonds, the foreign bonds including obligations of Canada, Switzerland, The Netherlands, Great Britain, Mexico and two Canadian cities. It is worthy of note that the only tax-exempt holding in Harvard's list is a $30,000 block of Liberty 3½s. As income taxes are not a factor in Harvard's investments, domestic municipals are very properly excluded from the list. As between different classes of bonds, Harvard's bond holdings on June 30, 1922, were divided between governments, 6.6%; rails, 36.6%; public utilities, 37.4%; industrials, 19.4%. Of the public utility bond holdings about one-sixth were tractions. Of the stocks other than real estate trust stocks Harvard had $7,426,000 at their book value. These were divided between

rails, 23.4%; public utilities, 21.1%; industrials, 52%; bank stocks, 3.5%. The total was about evenly divided between preferred and common stocks.

Experience of a Trust Company

In most states statute law rigidly curtails the powers of trustees to invest trust funds. In one wealthy state, however, the common law rule that a trustee may purchase any security which a prudent man might buy for himself still prevails. The largest trustee in this state, Massachusetts, is the Old Colony Trust Co., which has over $100,000,000 of individual trust funds in its charge. In analyzing the assets of this department it is to be remembered that the management has not the freedom of action possessed by the trustees of a permanent fund like that of Harvard. Funds of a large majority of the trusts in their charge must be kept in readiness for distribution to beneficiaries at future dates a few months to many years distant. Furthermore, the trusts do not come to the trust company as clean cash, but usually as miscellany of securities, good, bad and indifferent. It is frequently expedient to hold relatively undesirable securities for considerable periods awaiting an opportunity to liquidate on favorable terms. Large trusts may be invested in municipals to secure income tax exemption while a small trust will contain no municipals. A detailed analysis of the Old Colony's trust department assets is therefore not necessarily a proper criterion for the investments of any given individual.

It is interesting to note, however, that the Old

Colony follows the Harvard precedent of including stocks as well as bonds in its holdings. On Dec. 31, 1923, stocks of the various classes constituted 43.4% of its total trust assets, bonds, notes and mortgages 48.1%, real estate, miscellaneous items and cash the balance. Vice-Chairman Hart explained for the benefit of Barron's readers the principles governing the selection of trust investments as follows:

Guiding Principles of Diversification

"Purchases are made from a list of securities approved by our trust committee. High-grade bonds constitute the bulk of an investment fund, but we also purchase a good proportion of sound stocks. It is inevitable that even with the most careful selection a bond investment will occasionally go wrong. If the whole of an investment fund is placed in bonds bought mostly around par, the amount of the fund is sure to diminish in time as losses occur, while there will be no profits to offset them. While there are fewer stocks that meet investment requirements and the percentage of losses is likely to be larger, careful selection will insure profits over a period of years that will more than offset the losses. If a small trust fund had been placed in Wabash-Pittsburgh Terminal bonds years ago when that issue was considered sound, the trust would have been practically wiped out. It is true that the same thing would have happened if it had been placed in New Haven stock, but a balanced selection of stocks would have included United Fruit

and General Electric as well as New Haven and profits on these issues would have offset losses on the others.

Preferred Stocks

"As a class, we do not regard preferred stocks with particular favor. It would be misleading to make a general statement on this point. Such an issue as Eastman Kodak preferred ranks above many good bonds. In general, however, it is to be remembered that preferred stock partakes more of the nature of a debt than a share in the equity, since the return to the holder is strictly limited, while it does not have the safeguards thrown around good bonds.

"Beside investing in both bonds and stocks we diversify our purchases as between rails, public utilities and industrials in the conventional way. Another precaution taken is to confine our purchases of strictly New England securities to not over one-third of our holdings, scattering the balance of our investments over the rest of the country. Thus we cannot be seriously affected by adverse developments of a purely local character."

Application to an Individual Problem

In the principles here set forth as exemplified by the investment of Harvard's funds are to be found a standard for the investment of the funds of an individual. Assuming his fund to be semi-permanent, an investor would naturally put the bulk of it into sound bonds, a smaller portion into care-

fully selected common stocks. Of the portion devoted to bonds the greater part might be placed in rails and public utilities, a smaller portion in industrials, a still smaller portion in governments. The principle of diversification would be carried still further within each class. For example, it would be bad investing in buying four railroad bonds to purchase obligations of the Carolina, Clinchfield & Ohio, Chesapeake & Ohio, Norfolk & Western and Virginian, since these all depend principally on soft-coal traffic. Instead an investor buying four railroad bonds might buy the obligations of one soft-coal road, one trunk line, one southwestern road, one transcontinental road. The same principle would be observed in the selection of public utility and industrial bonds. Diversifying his holdings from another viewpoint the alert investor will not buy all highly marketable or all "slow" market issues, but maintain a proper proportion between the two, avoiding the sacrifice either of yield or of his principal in case of forced liquidation. Diversifying in still another way the experienced investor spreads the maturities of his bonds between long, short and medium, protecting his principal and yield in either a rising or falling bond market.

Having learned the principles governing the selection of individual bonds and the distribution of his funds over a broad list of bonds the individual investor is prepared to put his money to work to the best advantage. In a free country like ours whose constitution and laws protect human and property rights to the utmost it is easier for the

thrifty individual to find sound investments than in almost any other country or in almost any other historical era in the world. There are available to the investor today an abundance of sound securities, a wealth of information concerning them and a multiplicity of agencies handling them never before equaled. The way is thus open to any intelligent American with the backbone to save a portion of his income to accumulate a competence with a minimum of risk and trouble. With millions of thrifty Americans making such accumulations the continued growth of the material prosperity of all Americans is assured.